
ALASKA RETIREMENT MANAGEMENT BOARD

BOARD OF TRUSTEES
AGENDA

April 18-19, 2013

Centennial Hall
Egan Room
Juneau, AK

Teleconference # 1-800-315-6338 Pass Code 2762#

Thursday, April 18, 2013

- I. 9:00 am Call to Order
- II. Roll Call
- III. Public Meeting Notice
- IV. Approval of Agenda
- V. Communications, Public/Member Participation, and Appearances
(Three Minute Limit)
- VI. Approval of Minutes: February 12-13, 2013
March 15, 2013

- VII. 9:15 Reports
 - 1. Chair Report

 - 2. Committee Reports

 - 3. Retirement & Benefits Division Report
 - A. Legislative Update
Jim Puckett, Director, Division of Retirement & Benefits
Mike Barnhill, Deputy Commissioner, Dept. of Administration

 - 4. Treasury Division Report
Deputy Commissioner Angela Rodell

 - 5. Chief Investment Officer Report, *Gary Bader*

 - 9:45-10:00 6. Fund Financial Report
Pamela Leary, State Comptroller
Jim Puckett, Director, Division of Retirement & Benefits

 - 10:05-10:35 7. Private Equity Tactical Plan
Action: Resolution 2013-03 - Private Equity Plan
Zachary Hanna, State Investment Officer

*10:35 - Break
10 Minutes*

10:45-11:45 8. Active/Passive Investment
Gary Bader, Chief Investment Officer
Michael O'Leary, Callan Associates, Inc.

Lunch - 11:45 - 1:00 pm

- 1:00-1:30 9. Actuarial Valuation Review - FY12
- A. Review: Actuarial Smoothing Survey
 - B. Certification of Draft FY12 Actuarial Valuation
Public Employees' Retirement System (PERS)
Teachers' Retirement System (TRS)
PERS Defined Contribution Plan
TRS Defined Contribution Plan
*Leslie Thompson & Dana Woolfrey,
Gabriel Roeder Smith*
- 1:35-2:35 C. FY12 Draft Actuarial Valuation Reports
Defined Benefit and Defined Contribution Plan
Public Employees' Retirement System (PERS)
Teachers' Retirement System (TRS)
PERS Defined Contribution Plan
TRS Defined Contribution Plan
*David Slishinsky, Lee James and Chris Hulla
Buck Consulting*
- 2:35 - Break
10 Minutes*
- D. Health Care Cost Assumptions Update
DCR Plan Design & Participation Assumptions
*David Slishinsky, Lee James and Chris Hulla
Buck Consulting*
 - E. Employer Group Waiver Plan (EGWP)
Bob Ferraro and Monica DeGraff, Buck Consulting

Recess

Friday, April 19, 2013

9:00 Call to Order

9:00-10:00 10. Performance Measurement - 4th Quarter
Michael O'Leary and Paul Erlendson, Callan Associates, Inc.

10:05-10:45 11. Adopt Asset Allocation:
Resolution 2013-04:
DB PERS/TRS/JRS
PERS/TRS/JRS Retiree Health Trusts
Retiree Major Medical HRAP/ODD
Resolution 2013-05: DB NGNMRS
Resolution 2013-06: DC PERS/TRS Holding Account
Gary Bader, Chief Investment Officer
Michael O'Leary, Callan Associates, Inc.

*10:45 - Break
15 Minutes*

11:00-11:15 12. Taxable Municipal Bonds Search
Gary Bader, Chief Investment Officer
Michael O'Leary, Callan Associates Inc.

11:15-11:45 A. Guggenheim Investments
Chris Cook and James Pass

Lunch - 11:45 - 1:00 pm

State of Alaska
ALASKA RETIREMENT MANAGEMENT BOARD
Meeting

Location
Anchorage Marriott Hotel
820 West Seventh Street
Anchorage, Alaska

MINUTES OF
February 12-13, 2013

Tuesday, February 12, 2013

CALL TO ORDER

CHAIR GAIL SCHUBERT called the meeting of the Alaska Retirement Management Board (ARMB) to order at 9:00 a.m.

ROLL CALL

Nine ARMB Trustees were present at roll call to form a quorum.

Board Members Present

Gail Schubert, *Chair*
Sam Trivette, *Vice Chair*
Gayle Harbo, *Secretary*
Kristin Erchinger
Commissioner Becky Hultberg
Martin Pihl
Tom Brice
Sandi Ryan
Commissioner Bryan Butcher

Board Members Absent

None

Investment Advisory Council Members Present

Dr. William Jennings
Dr. Jerrold Mitchell

Investment Advisory Council Members Absent

George Wilson

Department of Revenue Staff Present

Angela Rodell, Deputy Commissioner

Gary M. Bader, Chief Investment Officer
Bob Mitchell, State Investment Officer
Pamela Leary, State Comptroller
Judy Hall, Board Liaison

Department of Revenue Staff Absent

Zach Hanna, State Investment Officer
Steve Sikes, State Investment Officer
Scott Jones, Asst. State Comptroller

Department of Administration Staff Present

Jim Puckett, Director, Division of Retirement & Benefits
Mike Barnhill, Deputy Commissioner

Consultants, Invited Participants, and Others Present

Robert Johnson, ARMB Legal Counsel
Michael O'Leary, Callan Associates, Inc.
Paul Erlendson, Callan Associates, Inc.
Mark Weisdorf, J.P. Morgan Asset Management
Amy Cummings, J.P. Morgan Asset Management
Doug Bratton, Crestline Investors, Inc.
Curt Futch, Crestline Investors, Inc.
Eric Wolfe, Prisma Capital Partners, LP
Helenmarie Rodgers, Prisma Capital Partners, LP
Justin Richards, Mondrian Investment Partners
Dan Philps, Mondrian Investment Partners

PUBLIC MEETING NOTICE

JUDY HALL confirmed that public meeting notice requirements had been met.

APPROVAL OF AGENDA

MS. HARBO moved to approve the agenda. Mr. Brice seconded the motion.

The agenda was approved as presented.

PUBLIC/MEMBER PARTICIPATION, COMMUNICATIONS AND APPEARANCES

JAY DULANY, President of the Retired Public Employees Association (RPEA), expressed thanks for handling retiree trust funds. MR. DULANY expressed concern about unfunded liability.

APPROVAL OF MINUTES

MR. PIHL moved to approve the minutes of the December 6-7, 2012 meeting, as presented; MS. RYAN seconded the motion.

The minutes were approved without changes.

REPORTS

1. CHAIR REPORT

CHAIR SCHUBERT did not have anything to report, but requested that the agenda item “Investment Decisions” be moved to February 12th, instead of February 13th.

2. COMMITTEE REPORTS

A. Audit Committee

MR. PIHL reported that the Audit Committee met February 11, 2013; the main focus of the meeting was the Employer Audit Program, which has shown great improvement but the committee is looking for clarification as to the audit frequency and financial impact of findings. MR. PUCKETT will bring suggestions and further information to the committee at a future meeting.

MR. PIHL reported the committee receives monthly reports regarding the Compliance Audit Program in Revenue, and there have been no significant findings.

MR. PIHL noted the committee will receive a report from DRB at its next meeting on best practices regarding Employer Audit Programs by other states and employers.

3. RETIREMENT & BENEFITS DIVISION REPORT

A. Membership Statistics/Buck Invoices/HRA Rates

DIRECTOR PUCKETT reported that to date in FY13, 1,102 retirements have been processed, a higher number than in the past which raises concern given the increase in workload. MR. PIHL asked about Terminated Members, and DIRECTOR PUCKETT stated some are vested and some are not. DIRECTOR PUCKETT stated he will check with Finance to request that that line be split.

MS. HARBO asked about the Buck invoice charges dealing with GASB 67 and 68; MR. BARNHILL stated it was done at his request and it will not be billed to the Trust Funds.

MS. HARBO asked about the terms “withdrawn” and “full disbursements.” DIRECTOR PUCKETT stated if there is full disbursement, there is no money left in the account.

MS. ERCHINGER questioned Buck’s hourly rate which appeared to be about \$300 per hour. DIRECTOR PUCKETT stated Buck’s hourly rates vary from \$175 to \$350 per hour,

depending on who is doing the work. MS. ERCHINGER asked if there is a less expensive way to get the information. MR. BARNHILL stated that staff has done research on the cost of actuaries and found that the Florida Board of Pensions posted the hourly rates of the major actuarial firms and it all shows hundreds of dollars per hour. He stated that understanding actuarial costs and ensuring that costs not related to the administration of the retirement system are billed to the trust funds is a concern. He noted that he and MS. ERCHINGER will be working on a proposal that might appear on the next agenda.

MR. TRIVETTE asked for definitions of RHF and AHF; DIRECTOR PUCKETT stated RHF is Retiree Health Fund, and the AHF is Active Health Fund. He indicated his interest in following up on actuarial survey charges and the cost of having actuaries on staff.

MR. BARNHILL noted there are separate contracts, an actuarial contract for the pension side and an actuarial contract for the health consulting side. Both are with Buck. On the health side, that contract expires at the end of this fiscal year, and they will be issuing an RFP to procure for that.

MR. TRIVETTE stated the State used to have a contract with healthcare consultants and asked if there is a third contract or all rolled into the actuary contracts. MR. BARNHILL stated Buck was the prevailing bidder in the last cycle.

DIRECTOR PUCKETT stated there is an information memo regarding health reimbursement arrangements for the employers. The calculated amounts have been shared with the participating employers, and the information is available for the Trustees. MS. HARBO asked what happens to the account for the DC members that are withdrawn or have a full disbursement, and DIRECTOR PUCKETT stated they cannot access the money unless they've retired.

MS. HARBO asked about major medical, and MR. BARNHILL stated employers contribute the three percent into the HRA account, and to vest, one has to be in the system for five years. MR. BARNHILL noted that extensive internal discussions and research had taken place with respect to HRA accounts for employees who do not vest and whether those funds revert to employers; this drives actuarial projections about how long an HRA account would last so the division is interested in pinning that down. With respect to major medical, Buck will bring that rate to the Board for review at the April meeting and will propose an increase to that rate.

MR. TRIVETTE inquired about the cost of maintaining the individual accounts and how often participants are advised of account balances. DIRECTOR PUCKETT replied that he would investigate the administrative costs of the system, but that providing account balances should be provided next year. MR. TRIVETTE asked that information as to the account balances be provided to the board as well.

B. Legislative Report

MR. BARNHILL reported on SB30, which is Senator Egan's bill providing for a choice between a Defined Benefit and a Defined Contribution plan which is currently undergoing an actuarial analysis. SB48 is a new bill that is prompted by the Alaska Municipal League. This bill exempts or eliminates the 2008 salary floor requirement for those municipalities that have had a change in population, a decrease in population of 25% or more between the 2000 census and the 2010 census.

MR. PIHL and MR. BRICE stated concerns regarding the 22% portion that goes to the unfunded liability. MR. BARNHILL said the basic way to address it is what the Board has done and that is to set rates that are equivalent to the actuarially required contribution. MR. BARNHILL noted the Board is fulfilling its statutory duty to set rates, and it is doing so appropriately. HB102 does a variety of things regarding attachment of retirement proceeds and crediting and community property and that is being evaluating with the Department of Law. HB106, by Representative Kerttula, would permit deduction of dues, retiree organization dues, from a pension check; it's the same as HB135 last session.

COMMISSIONER HULTBERG stated there should be an additional agenda item and/or the Legislative Committee should have further discussion; MR. BRICE stated he will note it under New Business. MR. PIHL complimented Commissioner Hultberg and Deputy Commissioner Barnhill on their presentation to the legislature

MS. ERCHINGER expressed her thanks regarding the salary floor discussion and the continuing dialog regarding SB48.

4. TREASURY DIVISION REPORT

Department of Revenue Deputy Commissioner ANGELA RODELL reported an action item would be required from the Board. The ARMB contract with State Street, its custodial bank, will expire on June 30, 2013. The Board has three one-year optional extensions. The extensions do not have fee schedules attached to them, but Staff and Department of Law have been working to arrive at a fixed fee for the next three years. The Division recommended that the Board approve an extension for the next three years. The ARMB paid a flat fee in 2002 of \$1,092,000 million, and for fiscal year 2013, it will be \$1,118,000, and then will be locked for the next three years at \$1,229,800. The recommendation is to direct staff to exercise the three one-year renewals at the flat fee, so the contract would expire June 30, 2016. She noted that daily plan accounting program is finally underway, and to have three years to experience daily plan accounting under this contract extension would be important and should a new custodian be selected in the future, the transition should be somewhat easier.

MR. PIHL moved to direct staff to exercise the three-year contract extensions with State Street regarding custody services; the motion was seconded by MS. ERCHINGER.

MR. TRIVETTE stated there is no need to go out for an RFP.

COMMISSIONER HULTBERG asked if the contract was exempt from the procurement code; MR. JOHNSON stated the custodial function is pursuant to a delegation so it is not

required to go through standard procurement processes, but the Board can elect to go through with RFP process.

Motion carried unanimously.

5. CHIEF INVESTMENT OFFICER REPORT

MR. BADER reported on several rebalancing of the retirement funds to return the funds to the target asset allocation. He next described responses to participants' questions relating to having a metals fund, brokerage account and money market options. MR. BADER noted that the Defined Contribution Plan Committee would meet in the near future to discuss the DC Plan options. He reported on a communication from EIG in support of TCW's acquisition by the Carlyle Group, stating that the board does not have a role in the process, it is informational.

MR. BADER stated that following the termination of Capital Guardian emerging markets, \$350 million was transferred to an ACWI Ex-US index fund. McKinley Capital was reduced the \$25 million to try and bring things more into balance with international investments. The Equity Yield Strategy indexed to the Dow 100 approved by the Board last April was funded with \$100 million from a cash account indexed.

MR. BADER noted the next item was a request for permission to change investment contracts to reflect a name change from RCM Capital Management to Allianz. MR. JOHNSON stated that clarification should be included for assumption of liabilities for actions related to the prior contract. MR. BADER requested a motion that the Board approve these name changes, subject to the concurrence of legal counsel.

MS. HARBO moved that the Board approve these name changes, subject to the concurrence of legal counsel; MS. RYAN seconded the motion.

Motion carried unanimously.

MR. BADER noted RCM invests in a Defined Contribution Plan, known as the ESG account, also in Buy-Write, and in a large cap core growth fund. All three of these funds would have the name change.

MS. HARBO inquired about the progress on the actuarial audit and its timeline and when a final report will be done. MR. BADER stated the contract has been signed, the auditors are in contact with the Buck Consultants, and they are in the process of exchanging information.

6. FUND FINANCIAL REPORT

Comptroller PAMELA LEARY reported the total PERS system had \$12.4 billion at December 31st. The Teachers' system had \$5.1 billion. The Judicial system had \$135 million. The National Guard Naval Militia had \$34 million. The Supplemental Annuity Plan

had \$2.8 billion, and the Deferred Compensation Plan was \$644 million. The total for all funds at December 31st was \$21.192 billion.

MS. LEARY reported Non-Participant Directed assets at \$17.360 billion, and the Participated Directed funds at \$3.8 billion. At January 31st, the number for the Non-Participated Directed went up \$17.7 billion, and as of February 8, 2013, was at \$17.8 billion, so an increase of income by about a little over 8.5% for the seven months. During the month of December, investment income contributed to an increase of about 1.3% in increase of assets.

DIRECTOR PUCKETT reported, for the six months ending December 31, 2012, \$478 million in contributions have been received from employers and members. With the legislative relief and other income, that is a total of \$1.1 billion in total contributions received year-to-date. Of the \$725 million paid out in benefits so far this year, 68% is Defined Benefit pension payments to PRS, TRS, and JRS retirees. The other 32% is meant to provide medical care for those retirees and their dependents. For the month of December, over \$90 million in contributions were received, and over \$123 million in benefits was paid out, and \$17 million in refunds and disbursements were processed during the month.

MS. ERCHINGER requested MS. LEARY add a column to the schedule, the Non-Participant Directed Plans, distinguishing the difference between the percent change, beginning and ending balance percent change, due to the invested assets versus investment income. MS. LEARY indicated she would add that.

7. INFRASTRUCTURE

A. INTRODUCTION TO INFRASTRUCTURE

Gary Bader, Chief Investment Officer

MR. BADER reminded Board members that at the October Education Conference, a presentation was given by Joe Azelby of J.P. Morgan Asset Management called "The Realization." Included in the presentation was a section on infrastructure. MR. BADER noted a major asset group missing from the ARMB's Real Assets Allocation is infrastructure.

MR. BADER noted infrastructure is a group of investments that include the basic physical systems of a business or of a nation or of a state. As an asset class, infrastructure is a defensive asset class and tends to be less volatile than publicly traded equities, with the following characteristics: high barriers to entry due to cost and low price elasticity. MR. BADER invited AMY CUMMINGS and MARK WEISDORF from J.P. Morgan Asset management to explain investing in infrastructure.

B. INFRASTRUCTURE

J.P. Morgan Asset Management

AMY CUMMINGS with the Global Real Assets Group of J.P. MORGAN and MARK WEISDORF reported on Infrastructure Investing. *[A copy of this presentation is on file at the ARMB office.]*

MS. CUMMINGS reported infrastructure has been a consistent performer, a growing cash flow investment, low volatility, and a proven diversifier, including during the recent economic downturn. She provided a summary of Mr. Weisdorf's background, noting his 30 years of investment experience. He has developed the J.P. Morgan infrastructure platform with 30 professionals and \$7 billion in assets under management. MS. CUMMINGS said the goal was to provide a snapshot of the infrastructure investment – its characteristics, benefits, the outlook and current timing.

MR. WEISDORF reported institutional investors in infrastructure, over the past six to eight years, have been experiencing the realization described by Joe Azelby. He stated that with fixed income generating insufficient returns to meet actuarial requirements, and the volatility in the equity markets, de-risking a portfolio by taking some volatility off the table.

MR. WEISDORF noted four major groups in the infrastructure space made up by regulated utilities, transportation assets, social infrastructure, and communication infrastructure. MS. CUMMINGS noted the characteristics of infrastructure as: income, low volatility of returns, diversification, inflation protection, and long-term liability matching.

MR. WEISDORF described the risks of infrastructure, particularly regulatory and political risk since these assets are essential to the communities that they serve. Liquidity is another risk, but mitigated by earning a premium for holding illiquid assets. He next discussed the stage of development in building a new asset taking on construction or development or utilization risk, or investing in existing assets with 30 or more years of operating history. MS. CUMMINGS noted this is a compelling asset class, and she made the case for the income and the low volatility and also for the timing of it. MS. CUMMINGS noted it's a more established asset class than it was previously.

COMMISSIONER HULTBERG inquired about how sensitive this asset class is to the health of public sector finances. MR. WEISDORF stated having the qualified sector invest in the asset class or in the asset takes it away from the risk of being dependent on public sector financing.

MR. TRIVETTE asked about timing; MR. WEISDORF stated, for a year or two, they still see attractive opportunity. MR. TRIVETTE inquired about how to pick a top quartile manager versus just an average one; MS. CUMMINGS stated to ask their consultants.

DR. MITCHELL asked, once these assets are in a portfolio, how frequently are they priced, who prices them, and what's the liquidity if you want to sell it? MR. WEISDORF stated it varies from manager to manager, but generally quarterly appraisals and valuations, and then annually each asset is valued by auditors.

MR. ERLENDSON asked, what are the challenges to investors in terms of actually realizing capital gains? MR. WEISDORF replied that this is still a newer investment strategy worldwide, so we don't have the same liquidity that we do for real estate, the strategy is to grow the cash flows over time.

CHAIR SCHUBERT thanked the presenters for presentation and recessed meeting from 10:46 a.m. to 11:00 a.m.

8. ABSOLUTE RETURN/PORTFOLIO STRUCTURE DISCUSSION

MR. BADER reported, on December 18, 2012, MR. O'LEARY, MR. ERLENDSON, DR. JENNINGS, DR. MITCHELL, GEORGE WILSON, JUDY HALL, and he met in New York City to discuss unfinished items from the August meeting in Denver. There were three major topics: 1) creation of an asset class called "Other"; 2) active versus passive strategies; and 3) Absolute Return asset class.

MR. BADER noted the goal of the ARMB's Absolute Return policy is to try and earn a five percent real rate of return with low volatility and low correlations to the other asset classes in the portfolio.

As a result of the meeting, it is being recommended that the Board adopt a more opportunistic and less constrained Absolute Return strategy. The revised program would focus on producing higher returns with the ability to take on additional risk and market correlation. Significant changes would include investing in a combination of strategies that, in the aggregate, would include volatility that ranges from five to ten percent as opposed to the previous targets of four to six percent. In addition, the beta, the correlation with the other asset classes, like stocks and bonds, could rise to as much as 50% over rolling three-year averages.

MR. BADER reported GAM, Prisma, and Crestline came before the group and presented investment strategies that they felt might achieve the stated goal.

MR. BADER noted there will be an action item later in the agenda, which would presume to expand the investment policies to allow the investment approaches that will be shown later in the meeting.

MR. TRIVETTE expressed thanks and appreciation to MR. BADER and IAC and the rest of the staff for engaging this topic.

9. CRESTLINE INVESTORS, INC.

DOUG BRATTON, Founder and CIO of Crestline, presented on Crestline's opportunistic strategy capability. *[A copy of this presentation is on file at the ARMB office.]*

Senior Portfolio Managers for the strategy, CURT FUTCH and KEITH WILLIAMS, accompanied MR. BRATTON, and background information was provided on the experience and careers of the presenters that highlighted the specific skills to execute the strategy.

MR. BRATTON stated Crestline proposes to modify the Blue Glacier account (the existing account) to an opportunistic mandate. Strategies pursued will be primarily long only versus

hedge funds. The Blue Glacier account would be a separately managed account, but pursuing the Opportunity Fund II strategy instead of the existing hedge fund strategy.

Crestline has \$7.3 billion of firm assets under management and 93% of those assets under management are from institutional investors.

MR. BRATTON discussed opportunistic investing, noting it has a one to three year average life expectancy, and it has a 12% to 16% return net expectation in today's market. It's transparent, and it has a shallow J-curve. MR. BRATTON noted Crestline has an industry-leading position in opportunistic private credit strategies.

MR. BRATTON noted, as far as the actual allocation of the existing Opportunity I Fund, the current allocation is about 30% cash flow strategies, 11% opportunistic credit, distressed corporate, and then hedge fund secondaries to make up the allocation of the current fund. The fund was started back in 2005, and it was a \$400 million capital base, funded by two large pension partners, North American pension plans. As far as returns, over the period of September 2005 to 2012, about 11% compounded return was generated, which is double the S&P and bond market and much greater than the Hedge Fund of Funds index.

MR. TRIVETTE asked if Crestline anticipates additional fees to move the strategy to opportunistic and inquired about the timeframe on the Shallow J-curve. MR. BRATTON noted one to three years is defined as a Shallow J-curve.

MR. ERLENDSON inquired about expectation about the variability around the target rate of return. MR. BRATTON stated he would put it squarely in the center.

MR. BRATTON discussed investment structuring, portfolio construction, and risk management.

MR. BRATTON discussed the proposal to modify the existing account, including a \$250 million account of which up to 100% will be allocated from the existing hedge fund portfolio to the new mandate. A separate share class will be created in the existing fund, and as investments are added to the new share class, the existing investments will be liquidated to fund that share class. It is a two-year investment period. At the end of two years, it would go into run-off and become self-liquidating, and the continuation of the program will be at the option of the ARMB Board.

Crestline proposed a reduced management fee of 75 basis points and a performance fee that would only be 10%, which would only be implemented after the ARMB Board received a 6% return and all its capital back.

MR. O'LEARY inquired about the overall fee structure. MR. BRATTON stated the existing fee structure is 0.83 basis points, 85 basis points. Crestline proposed reducing the existing management fee from 0.85 basis points to 0.75. In return for that, Crestline proposed a performance fee based only upon realization of capital and a return. There is no performance fee that exists today.

MR. O'LEARY confirmed that fee is only on performance above six percent; MR. BRATTON stated that is correct. ARMB would receive 100% of its capital back, plus a six percent internal rate of return, and then share the profits 90/10 above that. MR. O'LEARY inquired if that pertains only to the new investments made; MR. BRATTON stated yes; for comparison purposes, Crestline's existing fee structure for these accounts is 1.25% and 10% over the 6% return. Crestline proposed a substantial decrease in fees based on the size of the account.

DR. MITCHELL inquired about deal flow benefits from current market dislocations, Crestline's view on how long the market dislocations will last, and if we at the end or beginning of the liquidating hedge fund period and the end of the prop desk disappearance. MR. FUTCH stated, from a prop desk perspective, those institutions have a decreased appetite for risk. MR. BRATTON confirmed two to three years of good visibility.

MR. BADER inquired, if the fund would earn more than six percent, then the surplus over six percent would be split 90/10, to which MR. BRATTON replied, yes, and stated the fee schedule is based on realization only, so IRR and liquidation, not an annual fee schedule. ARMB would receive the money back, then a return, and then Crestline would participate.

CHAIR SCHUBERT thanked the presenters for presentation and recessed meeting from 11:31 a.m. to 1:14 p.m.

10. PRISMA CAPITAL PARTNERS, LP

CO-CHAIR TRIVETTE called the meeting back to order.

MR. BADER welcomed ERIC WOLFE and HELENMARIE RODGERS from PRISMA CAPITAL who gave a presentation on PRISMA CAPITAL PARTNERS, LP. *[A copy of this presentation is on file at the ARMB office.]*

MS. RODGERS reported about Prisma and gave an update on the firm, post-transaction with KKR. MS. RODGERS reported Prisma did a transaction with KKR and is now part of a broader financial institution. Prisma has over \$8.0 billion in assets under management, and 90% of that is managed on behalf of institutional clients.

MS. RODGERS reported, on the performance side, the low volatility composite consistently outperformed the HRFI Hedge Fund of Funds Index by a little over 300 basis points per year and T-Bills by 422 basis points per year since inception of this composite.

MS. RODGERS stated Prisma continues to feel very strongly about the ability to generate alpha in the hedge fund asset class and the flexibility that hedge funds have in terms of multiple opportunity sets across the strategy. It continues to be both a return generator and a risk diversifier for clients.

MR. WOLFE talked about the proposal for the portfolio specifically, the strategy outlook for the world, and different hedge fund strategies. MR. WOLFE reported the Polar Bear Fund was up nearly three percent in the fourth quarter. MR. WOLFE reported the long/short equity strategy is what Prisma is the most excited about for the next couple of years, and the areas Prisma is least excited about is strategies like convertible bond arbitrage.

MR. O'LEARY inquired about percentages in long/short equity. MR. WOLFE stated, instead of having 35 managers, Prisma would propose having closer to 15 managers.

MR. BRICE requested MR. WOLFE talk in more specificity in terms of Prisma's Asian target. MR. WOLFE stated it's multifaceted in terms of the different types of investment strategies that Prisma finds attractive in Asia.

MR. ERLENDSON inquired about the trading activity Prisma would expect with its view of the future for this strategy and what sort of turnover volume the underlying assets would involve. MR. WOLFE stated it depends a lot on the individual strategies.

MR. BRICE inquired if the target was seven percent. MR. WOLFE stated the return to cash is measured by three-month T-Bills over the last year. It has been about 0.1%. The total return target for the program has been about 5.1%, and including January, it was at about 4.92% total return, very close to the target objective for the program.

MR. TRIVETTE inquired if there are any additional fees or costs to the ARMB Board for the restructuring, and as to how long it will take to transition all the way to be 100% done with the restructure. MR. WOLFE stated there are no additional costs involved in the restructuring. The time horizon is ARMB will get about 90% of the way there within three months. The last five percent may take up to nine months to 12 months, but ARMB will get almost all the way there within three months.

CHAIR SCHUBERT thanked the presenters for presentation and recessed meeting from 1:51 p.m. to 1:57 p.m.

14. INVESTMENT DECISIONS (note: *change in agenda to item 14, due to time allowance*)

CHAIR SCHUBERT called the meeting back to order and noted Investment Decisions will be moved to this point in the agenda.

A. Absolute Return Policy Change Action: Resolution 2013-01

MR. BADER reported that changes in the Board's policy regarding Absolute Return will be necessary in order for Crestline and Prisma/KKR to implement those changes. *[A copy of this presentation is on file at the ARMB office.]* The first change is that the volatility constraints have been relaxed to a point where volatility would now be between that of bonds and equity. The range has changed from four to six percent to between five and ten percent, so more volatility in this new asset class can be expected.

MR. BADER noted, secondly, individual manager investment guidelines would be set in writing by the CIO, and the policy would ask that ARMB try to achieve the policy objectives within the total program, not just singularly with each investment manager.

MR. BADER noted, thirdly, the investment return goal is a return in excess of a portfolio composed of 70% MSCI All Country World Index and a 30% Barclay's Capital Aggregate Bond Index, and fourth, beta exposure should not consistently exceed 0.50%. Fifth, liquidity targets are relaxed and based upon the program rather than that of an individual manager. Sixth, managers may make investments through closed-end funds or other structures not subject to the liquidity guidelines, if they have the CIO approval. And lastly, managers may run a more concentrated portfolio and hold as few as ten investment funds down from a previous requirement of 20.

MR. BADER asked for a motion that the Alaska Retirement Management Board adopt Resolution 2013-01, revising the Absolute Return Policies and Procedures to accommodate a more opportunistic and less constrained approach to Absolute Return.

MR. TRIVETTE moved to adopt Resolution 2013-01; MS. HARBO seconded the motion.

MS. ERCHINGER expressed concerns about reconsidering being in the Absolute Return asset class, and asked, if it is best to get out of the asset class all together and find another place to put money or just change the constraints put on the asset class to get the higher return. MR. BADER discussed the option of the "Other" asset class.

MR. BRICE questioned the validity of the Board's constraints. MR. BADER noted one of the things it also says in the Action Memo is ARMB wants a demonstrated history of success in these asset classes. MR. BADER noted Prisma, by and large, has met the expectation; the other two have not. MR. O'LEARY stated one of the things that has been put on the table is that Absolute Return is not an asset class.

DR. JENNINGS stated the Board suffered from self-imposed constraints. On diversification, DR. JENNINGS thinks it's perhaps less diversified, but it is still diversifying, and some of these strategies are going to smooth out the overall portfolio volatility. PRISMA and CRESTLINE will be able to reallocate resources much more quickly than a board-driven process.

MS. ERCHINGER expressed thanks for the additional explanation, and COMMISSIONER BUTCHER stated he is interested in taking this step.

Upon a roll call vote, the motion carried unanimously.

MR. BADER asked the Board to approve the removal of KKR/Prisma from the watch list.

MS. HARBO moved to approve the removal of KKR/Prisma from the watch list; the motion was seconded by MS. ERCHINGER.

MR. O'LEARY confirmed he did not provide advice in this regard because his daughter is a partner at KKR.

Motion carried unanimously.

B. Asset Class Addition: Other Equity

MR. BADER discussed the creation of an "Other" asset class, and there is an Action Memo regarding this topic. The ARMB currently has seven asset class buckets designed to group investments based on similar characteristics and performance patterns. MR. BADER noted this topic was discussed at a meeting with Callan and the IAC on December 18, 2012, and another asset class was the recommended direction to go in for these assets. The benchmark for this asset class would be 50% S&P 500, 30% Buy-Write Index, and 30% Convertible Bond Index. MR. BADER noted, effective July 1, 2013, the Alaska Retirement Management Board would create a new asset class called "Other" to house current and future investments that do not properly fit into the ARMB's current asset class structure.

MR. BRICE moved to create an "Other" asset class; the motion was seconded by MS. RYAN.

DR. JENNINGS suggested the label "Other Equity." MR. JOHNSON raised the question if the "Other" category is too broad. MR. O'LEARY noted it would not be grouped in the "Other" category, unless the Board acted to approve it.

MS. RYAN stated she likes the idea, but not the name because it doesn't have transparency. MR. BADER noted it was labeled "Other" because it has convertible bonds in it, and it would be very equity centric in terms of its approach. He would not be opposed to labeling it "Other Equity." MR. O'LEARY suggested "Low Volatility Equity."

MR. BADER suggested, if agreeable to Board members, the term "Other" would be used until the Board found a more descriptive name, and it could be changed. He would work with Ms. Ryan and others to create a new name.

Motion carried unanimously.

C. Infrastructure Manager Search

MR. BADER asked for a motion from the Alaska Retirement Management Board to direct staff to engage Callan and Associates to conduct a search for one or more infrastructure managers. Both private and public investment strategies should be considered.

MR. BRICE moved that the Alaska Retirement Management Board direct staff to engage Callan and Associates to conduct a search for one or more infrastructure managers; the motion was seconded by MS. HARBO.

COMMISSIONER HULTBERG stated an interest in the opinions of the IAC on moving into this investment class and asked them to address the concern over whether or not this provides additional risk. DR. MITCHELL stated it's not an essential investment. DR. JENNINGS noted that a lot of these have inflation-adjusted cash flow streams, at least contractually, and they can always be renegotiated. COMMISSIONER BUTCHER stated approximately four percent of the Permanent Fund is invested in infrastructure, and he thinks it would be positive here, but not essential.

MR. BADER noted that he asked MR. WEISDORF if he was aware of any public entities that have reneged on their contracts, and MR. WEISDORF said he could not think of anybody that had reneged on the contract after it had been signed.

MR. BRICE asked, in terms of the field of investment managers, how large of a group of people is the Board looking at that participate in this type of business? MR. O'LEARY responded probably between ten and 20 firms.

MS. ERCHINGER inquired as to what impact, if any, there will be on internal staff and their ability to handle a new section of asset class and the managers associated with that, and also if there is a need to consider if any limitations should be placed on the types of investments. MR. BADER stated he does not think it will have any impact long-run, and he anticipates that this can be done with the existing staff without any impact on performance.

Motion carried unanimously.

11. CAPITAL MARKETS ASSUMPTIONS

MICHAEL O'LEARY of CALLAN ASSOCIATES, INC. gave a presentation on capital markets assumptions. *[A copy of this presentation is on file at the ARMB office.]*

MR. O'LEARY started with stating the objective for this meeting is to compare the assumptions from last year with those from this year and ask the questions: why are they different? And why should we think they're reasonable and then how are alternatives developed for the next board meeting? He noted that the alternatives should not be radical, unless that is a specific request by the board.

Referring to page four of the presentation, MR. O'LEARY reviewed the process of constructing capital market projections. He described the annual process of updating 10-year projections by evaluating the current environment and economic outlook, examining relations between economy and historical asset class performance, creating 10-year risk, return and correlation projections, and testing projections for reasonable results. MR. O'LEARY described the process as covering most broad asset classes and incorporates both advanced quantitative modeling as well as qualitative feedback and expertise at Callan.

MR. O'LEARY referenced a handout published by J.P. Morgan on long-term capital market return assumptions illustrating as a correlation estimate for each category against very other asset category. Using the example of the correlation between various types of hedge funds that the Board had discussed during earlier presentations, he noted that J.P. Morgan had a

correlation estimate for each hedge fund category against every other asset category. MR. O'LEARY commented that the investment business is so dynamic that he questions if an event-driven hedge fund of today is like an event-driven hedge fund of ten or 12 years ago, but it provides a starting point to develop correlation estimates. MR. O'LEARY stated the three things to develop projections for: the central tendency of a long-term return, the magnitude of volatility around it, and its general way of reacting with other asset categories.

Moving on to Page 8, MR. O'LEARY described the three numbers making investors unhappy: bond yields in the low 2s, stocks below 8%, and 60/40 portfolio earning less than 7%. He stated that Callan remains optimistic about the economy, and while investors need to earn more, the challenge is to refrain from taking on more risk chasing higher returns. Fixed income allocations less than 10% are difficult to comprehend, but MR. O'LEARY strongly suggested that the Board maintain some fixed income exposure, with some flexibility on what that amount would be. He noted that the ARMB fixed income allocation is low relative to others.

MR. O'LEARY noted the five-year and ten-year return numbers on page 11 jumped up because the bear market at the beginning of the 2000s is out of the calculation, but the 15 year numbers are lower than the ten-year numbers. He described the Treasury Yield Curve over time graphically depicted on page 13, leading into a discussion of the U.S. economic outlook on page 14. MR. O'LEARY described the bad news and good news picture shown on the page concluding that for 2013 and beyond, continued modest growth is the most likely outcome.

MR. O'LEARY quickly reviewed slides depicting the slow rate of recovery from this recession compared to others, the slow employment growth, a rebound in household formation, which is necessary for a recovery in housing starts, inflation as a non-issue in 2012, and it should not be an issue in 2013, and the likelihood of the dollar depreciating against emerging markets' currencies.

Looking at U.S. economic growth by sector, MR. O'LEARY noted that GDP growth since 2006 has not averaged between two and four percent, once considered the normal growth, and 2013 might be two percent. He noted that the Fed Funds interest rate are presumed to stay near zero until 2015, waiting for unemployment to drop below 6.5%, but that there may be some increase in rates in 2014 in anticipation of the change in Fed policy. MR. O'LEARY stated that at the end of 2012, equities are close to what most would regard as fair value, so when Callan is developing estimates, the question is where is it coming from: dividend yields, valuations, price-to-book, price earnings, price-to-sales, etc.? The greatest increase in profitability in the U.S. has come from the manufacturing section, where you can get real productivity gains which flow through to profits.

Turning to page 45, MR. O'LEARY described the summary page for the Major Markets category illustrating the one-year arithmetic return, the ten-year geometric mean return with inflation subtracted to get the Callan estimate of inflation leading to an estimate of a real return with projected risk. The column on the right shows the same numbers for last year as a comparison, which shows that the expectation for nominal equity returns is slightly lower

than last year because of the ten-year projection. Last year is over and out of the projection, so it's a moving ten-year target. He noted the 2.5% expected return for fixed income and cash earning 2% when it's earning 0.1% now; the explanation is the expectation that rates will go up, and if inflation is in the 2.5% range, the cash number is actually low.

MR. O'LEARY described the major asset categories as depicted on slide 47: 2013 Capital Market Expectations/Asset Mix Return and Risk – Includes Absolute Return & Equity Subclasses. He stated that for these asset categories with no constraints, the optimizer will give the best mix, which is all of them given those assumptions and presuming a projected arithmetic return of 5% to 7.75%, with a ten-year mean return of 4.91% to 6.92%. The mantra is the higher the volatility, the greater the difference between the arithmetic mean and the geometric mean. Moving to the next slide, MR. O'LEARY noted this looks similar, but isn't because absolute return is excluded, and another mix has been added and moved further out on the efficient frontier at 16.55% while the S&P 500 has a long-term average standard deviation of about 15%. The ARMB current policy is near Mix 5, over 14%.

MR. O'LEARY next referred to a secondary handout, *[available at the ARMB office]* Supplemental Asset Allocation Information, depicting estimates for each of the unique asset categories, ARMB fixed and ARMB real. The components of the ARMB Fixed portfolio are together in a mix similar to how the assets are allocated to come up with an estimate. The optimizer is unable to use this information in its analysis, so these are calculated. Slides 3 and 4 show the Risk and Return Assumptions and the correlations associated, and Slide 5 is a graphical depiction of risk/reward of each asset class. MR. O'LEARY then compared the ARMB current policy with asset mix alternatives and an illustration of the current policy range of returns over one, five and 10 year periods. He noted that most of the risk reduction occurs in the five-year, but even more going out ten years which is where the focus is.

MR. O'LEARY then stated that the next step in light of board actions taken earlier in the day will be to come up with an estimate for the "Other Equity" category which will have several components to it, which will be done in conjunction with staff and the advisors. Following that process, a more elaborate comparison of alternatives will be presented to the board and recommended by staff at the next meeting.

Moving next to the presentation, *Defined Contribution Trends: Real Return Risks and Opportunities [available at the ARMB office]*, MR. O'LEARY noted the importance of the defined contribution programs and that ARMB has always been on the leading edge of public arena individual account programs, but there is a lot of activity in this arena with discussion of modification of target date funds, real return, absolute return etc. and what are best practices today. He asked PAUL ERLENDSON to provide insight for the board into this area.

MR. ERLENDSON stated the point of this presentation is that we are in the early stages of the marketplace, trying to figure out how to give participant-directed plans the ability to hedge against inflation. He noted buying TIPS, Treasury Inflation Protected Securities, is an incredibly expensive solution, but it can be done within target date funds which provide some insulation for some of the technical challenges of offering TIPS as a standalone option. Callan hasn't seen inflation as a problem, but there is broad expectation inflation will return,

and the challenge for this group is to give the participant-directed plan membership an ability to hedge against that risk in future.

MR. BADER questioned what would happen if a person doesn't want to be in a target date fund. MR. O'LEARY stated one of the big issues the committee has to think about is there are very few programs that have the range of investment choices that are available to ARMB participants and that that sort of structure sometimes confuses participants because it provides them with too many choices. Some plans have offered international bond funds, infrastructure, real assets, so it's worth the time to study these issues, even if you don't change anything about your plan.

MR. ERLENDSON stated, in terms of the participant choosing an individual option on their own, the guiding principle is first do no harm, so looking at the volatility of commodities or some other options, it is easy for a participant to get significantly hurt. We want to make sure when something is added to the platform all issues are understood first and since inflation is not taking off immediately, there is time to do it right. .

MS. ERCHINGER asked if the Board need another conversation about changing its earnings assumption and also asked if it is important to have that conversation and to consider changing the earnings assumption. MR. O'LEARY stated the answer varies by situation, but in the ARMB's case, the thing that is worrisome is that it's a limited pool of participants who are members in the DB program. He stated the good news is that unanticipated increases in liability become less likely because it is that finite pool. In a young, rapidly growing plan situation, the Board can be pretty aggressive in the investment because future contributions are a bigger deal. He noted the different investment periods since World War II can illustrate 10-year periods where a prudent blend of stocks and bonds didn't produce a meaningful real rate of return.

MS. HARBO stated the Board has to pay attention to the long-term noting her experience in personal investments of a 30-year period. MR. O'LEARY shared the view that the Board does not want to be switching around contribution rates on a very short-term basis because it's measuring long-term inflation, long-term liquidity needs and the gap between the sensitivity of liabilities to inflation and sensitivity of investments to inflation.

MR. ERLENDSON noted philosophically, as a society, do we want to provide retirement benefits, and discussed the Defined Benefit versus Defined Contribution scenarios.

MR. PIHL noted the unfunded liability should be taken care of it by 2032 during this closed period. MR. PIHL stated he would like the ARMB to ask Buck to run the numbers at seven as well as eight. MR. BARNHILL noted Buck changed the structure of the valuation, and they began running stress tests on the different interest rates. MR. BARNHILL noted he is not aware of a 60-year projection. MR. PIHL stated he is not looking for 60-year projections, only for 25-year projections, and on the 25-year basis, he would like to see the numbers at seven and eight.

MS. ERCHINGER stated ARMB is in a closed system that is going to require a lot of liquidity in the coming years. Over the next 25 or 30 years, what the Board is dealing with today in terms of its assumptions, the Board should consider whether it will be valid over the long haul and that how it relates to interest earnings assumption. MR. O'LEARY stated it will be an important issue to study and understand. The things to be considered are the known outflows and how they relate to the size of the corpus.

MR. BADER noted MS. ERCHINGER is suggesting similar work that Karen Harris of Callan has done for the Board in the past. MR. O'LEARY stated it's an asset liability study. MR. BADER noted it has been approximately five years since the study has been done, and it would address MS. ERCHINGER's concerns in terms of private equity. MR. BADER noted MS. HARRIS could do that study.

MR. PIHL pointed out the Board has big numbers, \$143 billion for the Defined Benefit system, \$143 billion to meet over time, and in the early '30s, that outflow is going to be \$2.5 billion or in excess of \$2.5 billion a year just on the DB system, the current DB system.

MR. BARNHILL stated the sensitivity analysis is set forth on page 49 of the valuation for PERS, and if Board members want to see something different displayed in this year's valuation, to let him know. It's the FY11 valuation. MR. BARNHILL noted he will send a link to JUDY HALL, and she can distribute the link.

MR. TRIVETTE would look to CALLAN for data regarding reevaluating equity or other pots of money the Board has that are long-term, and deciding at what point in time the Board should liquidate to have the money available. Since rate of return is based upon, what the Board has in its investment policy, the Board also needs to look at that.

MR. BRICE noted that, in tomorrow's meeting (2/13/13), in "New Business," he plans on introducing a resolution for consideration by the Board to reiterate some of the things the Board has said in the past about the unfunded liability. The packets were distributed to the Board members.

RECESS FOR THE DAY

CHAIR SCHUBERT recessed the meeting at 4:12 p.m.

Wednesday, February 13, 2013

CALL BACK TO ORDER

VICE CHAIR TRIVETTE reconvened the meeting at 8:58 a.m. Along with the Chair, Trustees Trivette, Harbo, Erchinger, Hultberg, Pihl, Brice, Ryan, and Butcher were present.

CHAIR SCHUBERT was absent.

REPORTS (continued)

12. MONDRIAN INVESTMENT PARTNERS (US) INC.

GARY BADER introduced JUSTIN RICHARDS and DAN PHILPS of Mondrian Investment Partners (US), Inc. *[A copy of this presentation is on file at the ARMB office.]*

MR. RICHARDS gave a presentation on Mondrian's international fixed income portfolio for the ARMB, focusing on the year 2012, performance, how the portfolio is positioned, and the outlook on the portfolio. Mondrian is a value-oriented manager, running just over \$68 billion U.S.

MR. PHILPS noted page 2.2 is the most important page in the Mondrian presentation book, to understand how Mondrian invests in global fixed income and on ARMB's portfolio at Mondrian, and about maximizing the Board portfolio's exposure to the markets to generate the strongest future real income streams.

MR. PHILPS noted Mondrian uses the PRY, prospective real yield, the ten-year government bond yield in a market, minus future inflation. In other words, the inflation forecast.

MR. PHILPS gave an overview of the "Performance" section of the book, for how the markets performed over the last 12 months, ending December 31, 2012, positioning, and how that positioning was all driven by the prospective real yield. The strongest performing market was Poland, representing a 26.6% total return in U.S. dollar terms. There was an overweight position in Poland and that was beneficial to the performance of the fund; Poland is a relatively strong prospective real yield market. Mexico was also a strong performer in 2012 with a 21% return over the year; we were also overweight in Mexico. In the main three currency blocks, the U.S., Japan, and the Eurozone, performance was relatively mixed. The U.S. and Japan were the weakest performing developed markets, Japan the weakest of all. The strongest emerging market performer in our universe over 2012 was Hungary with a very strong 33.9% total return denominated in U.S. dollars. China and India have been very underweight, and China was the weakest performing market over the course of 2012.

MR. PHILPS noted the total return on the portfolio was 6.2% over 2012, a very decent absolute return versus 5.4% of the benchmark, which generated an excess return of 0.8% over the year. He noted that return is in excess of what ARMB's portfolio would have generated, had the Board stuck with a pure developed market, international fixed income. MR. PHILPS

also stated the key characteristic of the prospective real yield approach is that it generates consistent and strong long run returns.

MR. BADER asked how what benchmark is used in calculating the prospective real yield. MR. PHILPS stated the prospective real yield is calculated using the ten-year government bond yield, minus future inflation.

MR. BRICE asked for remarks on Israel. MR. PHILPS noted a strong prospective real yield in Israel will translate into a stronger real income stream over the medium to long-term.

MR. O'LEARY asked MR. PHILPS to give the Board some prospective on the extent to which Mondrian hedges because it appears that there are no current hedges. MR. PHILPS replied Hedging is a defensive part of Mondrian's process. What Mondrian seeks to do with its hedging and purchasing power parity is really to have a sense check of prospective real yield.

DR. MITCHELL asked MR. PHILPS to discuss Japan in greater detail. MR. PHILPS stated Mondrian sees continuing, underlying deflation in Japan, and deflation is additive to real yield.

MR. BRICE asked if Germany is incorporated in Eurozone and why Mondrian didn't break that out individually. MR. PHILPS replied the prospective real yield Mondrian calculates in the Eurozone is based on the German ten-year government bond yield. The prospective real yield is very poor in the Eurozone; all allocation is in Germany.

MR. BRICE asked if it's Mondrian's contention that the Eurozone will dissolve. MR. PHILPS stated there is a big difference between re-domination, a break up of the Eurozone, and an individual state being unsustainable.

MS. HARBO asked for comments on Czechoslovakia. MR. PHILPS stated the Czech Republic has been in an area of opportunity for Mondrian over the last 18 months. The prospective real yield there was relatively strong. It's an exception state into the Eurozone.

MR. TRIVETTE stated it would be beneficial in Mondrian's next presentation to the Board if they will provide a chart showing how much money ARMB put into Mondrian to start with, how much money has Mondrian given back to ARMB since inception, and if ARMB has given Mondrian additional money since 1997.

DR. MITCHELL inquired about how much of the prospective real yield from the fixed income side works its way into Mondrian's equity strategy. MR. PHILPS stated the inflation forecasts that Mondrian uses per market are actually used in its dividend discounting models used on the equity side.

MR. ERLENDSON asked for Mondrian's level of confidence in ability to predict the inflation rates over the next ten years and what it is doing to address that. MR. PHILPS stated Mondrian is focused on the real economy.

MR. O'LEARY asked MR. PHILPS to refresh the Board's memory as to Mondrian's style. MR. PHILPS stated Mondrian is relatively low turnover. He noted it is all about maximizing prospective real yield with regard to risk.

13. ARMB FIXED INCOME PORTFOLIO

Senior Investment Officer, BOB MITCHELL, gave a presentation titled Domestic Fixed Income, which discussed three mandates that internal staff managed on the ARMB Board's behalf, located in three different asset classes. *[A copy of this presentation is on file at the ARMB office.]*

MR. MITCHELL illustrated the actual asset allocation of the ARMB Board as of December 31, 2012. The fixed income portfolio group manages a TIPS mandate in the real asset class, the short-term fixed income mandate, and a large component of the fixed income mandate.

MR. MITCHELL noted the size of the TIPS portfolio is about \$200 million, the size of the short-term fixed income, as of December 31, 2012, is about \$600 million, and the size of the intermediate treasury component of the fixed income portfolio was about \$1.9 billion, and the intermediate treasury portfolio is now a little more than \$1.7 billion in size.

MR. MITCHELL stated their investment approach is to structure portfolios relative to the underlying benchmarks that they believe will have positive relative performance over a variety of different potential future outcomes; the time horizon for those scenarios is one to three months. MR. O'LEARY asked MR. MITCHELL to give the Board some sense as to the duration of the short-term portfolio. MR. MITCHELL stated the benchmark for that portfolio is a three-month T-Bill.

MR. MITCHELL noted another measure of interest rate sensitivity they look at is spread duration, with a spread duration of about 0.4 years. MR. MITCHELL stated about three-quarters of the intermediate treasury portfolio is in treasuries or short-term fixed income.

MR. MITCHELL stated, in terms of investment guidelines, they have a constraint that the portfolios can have no more than 30% of non-treasury, non-short-term fixed income assets in the portfolio. They are about five percentage points under that threshold. He pointed out that, for the TIPS portfolio, the real duration measure describes the sensitivity of the market value of the portfolio to changes in real interest rates. The real duration refers to the fact that TIPS trade on a real yield basis, and the pricing of TIPS is sensitive to changes in real interest rates along the curve.

MR. O'LEARY asked MR. MITCHELL to describe what the calculation is for the term real yield. MR. MITCHELL explained there is a separation here, where the coupon is the same, but it's paid on a growing principal balance as inflation accrues to the par amount. He also highlighted that TIPS are a much smaller component of the bond market than treasuries or other securities, and at times, can trade with very little liquidity and can behave in ways that can be surprising because of that lack of liquidity.

MR. MITCHELL discussed the short-term fixed income portfolio. The benchmark for this portfolio is a three-month treasury bill. The portfolio has about 40% of its assets in treasuries. About 95% of the portfolio is in securities that are rated AA+ or higher.

MR. MITCHELL stated, for a period of time, they were selling TIPS in an illiquid market and that caused a period of underperformance. With the passage of time, he reports they've come out of that negative performance, relative performance and now have positive since-inception performance in that portfolio.

MR. MITCHELL noted the presentation demonstrates interest rates are at the low end of their 40-year range. With front end rates at zero and the ten-year at slightly above two percent, the index for the intermediate treasury portfolio has a yield that's about 60 basis points for almost four years of duration. Yields are pretty low. He also noted real yields for the ten-year TIPS since inception in the United States in 1997 and highlighted they are in negative yield territory, another indicator that yields are low.

MR. MITCHELL stated the takeaway is, despite the fact that yields are low, relative demand is probably going to be pretty high, and a significant part of that demand is the Federal Reserve.

CHAIR TRIVETTE asked if MR. MITCHELL thinks it is one, two, or three years out. MR. MITCHELL stated this is for the calendar year 2013.

MR. MITCHELL pointed out another prominent dynamic in the markets is that retail investors, mutual fund investors have been investing in bonds at the expense of equity since the crisis, and the first takeaway is the markets are very much impacted by policy decisions. The other takeaway is understanding what the psychology of the markets is. With the advent of ETFs, that is another significant growth part of the markets, and it's a way to quickly get exposure or to take exposure off.

MR. O'LEARY stated, in looking at the estimated supply, his impression is that corporate treasurers have been very aggressive in issuing bonds, and the value of that seems to be greater than the pace suggested by these numbers. He asked if that is because they're refunding other bonds and only looking at the net increase. MR. MITCHELL noted, when looking at 2012, we've had the most high yield supply ever in that year. However, the net supply was zero or it might have been slightly negative because a lot of that activity was refinancing call bonds or tendering for bonds and extending maturities. So the net of all that activity was a lot less pronounced than the gross numbers would imply, and these are net estimates. With rates where they are, there is an incentive for everyone to issue.

MR. O'LEARY stated bank loans have become a hot investment topic because it's a short duration, high yielding alternative, and in a recent Morgan publication, that there was a slight tick up in delinquency on bank loans. He inquired where those types of things surface in the bond market and asked if it is through collateralized loan obligations. MR. MITCHELL stated he is not as familiar with it, but would say that, based on his conversations with

MacKay Shields, they look at it and say yes. He stated he would say bank loans would probably be a market that would probably give a whiff of increasing stress in the bond market. And basically, all bank loans and would behave similarly.

MR. PIHL asked if the Federal Reserve purchases mostly treasuries, and if that's the case, is that a rollover of the treasuries. If that is the case, he asked if the Federal Reserve is buying securities up at a higher interest rate than the ones going out, and therefore, having an impact on the rate environment. MR. MITCHELL replied the current program is to purchase treasuries and mortgages, but yes; there have been previous quantitative easing measures that have focused strictly on treasuries.

MR. BADER asked MR. MITCHELL to comment on the Board's exposure to collateralized mortgages. MR. MITCHELL stated it's pretty modest.

MR. ERLENDSON asked, given the circumstances that MR. MITCHELL outlined, if there are any guideline revisions/updates that he is contemplating bringing forward. MR. MITCHELL stated no; he is not.

MS. ERCHINGER noted the presentations today made her question the overall allocation that the ARMB Board has to fixed income, currently, an allocation of 14% overall, and looking at what portion of that fixed income is allocated to domestic fixed income, \$1.7 billion of the approximately \$3 billion that is allocated to fixed income is domestic. She asked the question, why does the Board have such a high allocation to domestic fixed income?

MS. ERCHINGER would be interested in asking the IAC to have a conversation. She would like to see a conversation around the issue of redistributing the Board's allocation of fixed income out of domestic and more into international or some other diversified assets that give more comfort that can be stretched for yield, but in a prudent fashion. She noted, at the April meeting, the Board will be talking about asset allocation, and she would like the Board to consider whether it should make a meaningful change in this regard and that would then lend itself to a question to MR. O'LEARY, when he is giving scenarios for asset mixes, whether it's too much to ask to throw some asset mix calculations before the Board that make a meaningful departure out of domestic fixed income. She also noted the Board is not going to reach its return assumptions with any of the asset mixes and so knowing that, the Board needs to make some changes. CHAIR TRIVETTE stated that is something the Board can ask the IAC, Callan, and Mr. Bader and his staff to put on the agenda for the April meeting.

CHAIR TRIVETTE recessed meeting from 10:11 a.m. to 10:24 a.m.

14. (REMINDER: Agenda Item 14 was moved after Item 10.)

NEW BUSINESS

CHAIR TRIVETTE called the meeting back to order and noted a request from COMMISSIONER BUTCHER to move into New Business at this time and come back to Unfinished Business later in the agenda. There were no objections from Trustees.

MR. BRICE noted he passed out an untitled resolution for discussion.

MR. BRICE moved the resolution for purposes of discussion; the motion was seconded by MS. RYAN.

MR. BRICE stated the resolution is to have the ARMB Board reaffirm the past resolution requesting the Administration and the Legislature to pursue an avenue to set up a plan, and over the next four sessions, \$500 million to each of the two Boards, primarily the PERS and TRS Boards, for addressing the unfunded liability. The purpose behind the resolution is the ARMB Board can invest in a more aggressive manner than the State can, and every dollar that the Board put towards the unfunded liability today saves a dollar plus “X” out into the future.

MR. PIHL noted, at the April meeting, the Board will get the actuary report, which will be on level dollar, which is going to introduce a lot of new numbers to the equation, and that was a major effort and accomplishment by the ARMB Board to make that step. MR. PIHL also stated that he thinks what the Board wants to do is confirm or restate or reaffirm the resolution that it passed last February, where the understanding was there was going to be \$500 million proposed to go, in addition to the state assistance. He also noted, with respect to this resolution, he would suggest wording changes in the third “whereas.” On the end of the first line, it says “the annual amount.” He would like it to read “the annual amount of state assistance.” And later on in the line, it should say “will soon exceed \$1 billion.”

MR. BRICE stated that’s a friendly amendment; there was no objection by Trustees.

MR. PIHL also noted the Legislature appears to be very interested in the ARMB Board’s input and position with respect to the unfunded liability.

COMMISSIONER BUTCHER stated he has concerns that the Legislature is interested in hearing what the ARMB Board has to say and that the Board needs to come up with a comprehensive plan to the Legislature. He noted the Governor asked the Board, last year, to consider options, and he is concerned that the Board hasn’t fully vetted what would be the position of the Board going to the Legislature as opposed to just this particular plan being considered by the Board. He also expressed concern as to how it would be accepted in Juneau.

COMMISSIONER HULTBERG stated the resolution was in December of 2011, and it had multiple scenarios. Then the Board looked at all those scenarios and identified six scenarios that it recommended the Legislature and the Governor consider further.

CHAIR TRIVETTE noted there were two separate resolutions, one in December and an additional one in the February meeting in Juneau.

MR. PIHL said, to his recollection, there was one resolution, and he thought there was a resolution that, when the Board understood there was \$500 million being put in the budget, it passed a resolution supporting that.

MS. ERCHINGER stated she did a chronology of events summarized as follows:

- Starting with the Governor's visit to the ARMB Board on September 21, 2011, followed by two resolutions passed by the ARMB Board. One was at the meeting of December 3, 2010 where Resolution 2010-31 was passed, changing the Board's Investment Real Return Assumption, and there was a second resolution that followed that did the same thing, but one was for PERS, one was for TRS. That was Resolution 2011-01, February 2011.
- Next, the Board convened a two-day meeting in Juneau to talk about the unfunded liability and whether the Board had some consensus around how to address that. That followed with an ARMB Board resolution passed December 1, 2011, where the Board articulated the scenarios that were being recommending to the Legislature. That is in Resolution 2011-23.
- MR. PIHL attended the Senate Finance Committee at their request, on January 11, 2012, to discuss the Board's findings from those recommendations. Then the Board passed a resolution in June of 2012 and that was changing the amortization methodology from level percentage of pay to level dollar, Resolution 2012-19.
- The ARMB Legislative Committee met on September 19, 2012, and the Board subsequently passed a resolution.
- Finally, the Board passed Resolution 2012-02 on February 17, 2012, regarding the Reserve Fund concept.

COMMISSIONER BUTCHER pointed out, for the benefit of the new trustees, approximately a third of the Legislature is new this year. COMMISSIONER HULTBERG recommended that the Board go back to the six scenarios, refresh the scenarios, and then have the conversation starting from that point.

MR. BARNHILL stated the only resolution that stated an amount was the one from December 2011 identifying the six scenarios. Scenario D called for a \$1 billion appropriation with continued state assistance under a level percentage of pay. Scenario J called for a \$1 billion appropriation with continued state assistance under level dollar amortization. None of the scenarios called for a \$1 billion appropriation over a four-year period. The resolution before the Board today is a brand new scenario that has not been modeled. There were various things that were modeled, but the \$4 billion appropriation was not modeled.

MS. ERCHINGER stated she thinks there needs to be a plan around how is it that this group of trustees can most effectively work with members of Legislature and the members of the Administration to formulate a solution.

MR. BARNHILL stated there were some scenarios where the Board considered an appropriation of \$6.15 billion into the trusts with no further state assistance, coupled with no state assistance which meant that amortization was not finished until 20 years later, and the Board rejected those scenarios.

CHAIR TRIVETTE stated the Board looked at 40 or 50 scenarios several years ago, so this draft resolution, even as amended, is not out of the ordinary or something that hasn't been discussed.

COMMISSIONER HULTBERG stated it's important to be able to see the impact of the scenarios and to compare them side-by-side and that's the piece the Board does not have available to make this decision. She also noted this Board, the Administration, and the Legislature have been very responsible in making the actuarially required contributions to the system.

MR. PIHL noted the first suggestion of \$500 million additional funding occurred by Governor Murkowski in the proposed budget he left when he left office. He thinks we need to do something that brings a message to the current Legislature, so he proposed the following change of wording: in the third line after "allocate," the words, "In addition to state assistance in the next four years, \$500 million towards retirement of the unfunded liability of the Alaska Public Employees and Alaska Teachers Employees Retirement Systems." By doing that, it's not stepping up the amount from \$500 million to a billion, but the Board is suggesting and reaffirming what we did before. MR. PIHL stated it should be followed by a presentation to a joint committee of the Legislature of this resolution, along with the background of all these steps that the ARMB Board has taken in its prudence.

MR. BRICE inquired as to whether it would be \$500 million to each of the two systems, and MR. PIHL stated no, and his wording was that would be in addition to the state assistance, \$500 million towards retirement of the unfunded liability of both systems.

MS. ERCHINGER stated, for the record, it's fair to say that the Board did run the scenario of the \$500 million per year. While she supports the resolution, she feels it is inappropriate it was brought forward on day two and that it lends itself to the Board being asked to make a decision for which it has less information that the Board is comfortable having.

MS. ERCHINGER moved to postpone action on this resolution to the meeting in April; the motion was seconded by MS. HARBO.

MS. RYAN made a point of order and inquired if the Board had another motion on the floor concerning the changes. CHAIR TRIVETTE said no.

CHAIR TRIVETTE stated there was no other motion on the floor, except the resolution, but there was a motion on the table to table this resolution until the April meeting and that was non-debatable. MR. JOHNSON stated that is correct. MR. BRICE objected.

CHAIR TRIVETTE called at at-ease from 11:02 a.m. to 11:03 a.m. for MR. JOHNSON to review Robert's Rules.

CHAIR TRIVETTE called the meeting back to order, and MR. JOHNSON stated he had done research, and the answer to the question is in Section XIV in Robert's Rules and that does provide that that motion is debatable. It is distinguishable from a motion to table, just later in the day, which is not debatable, but it was for a specific time.

CHAIR TRIVETTE stated the motion to table was on the floor and open for debate.

MR. BRICE brought to the Trustees' attention that he addressed this at the December meeting in Anchorage under Trustee Remarks. He very specifically said that he would be bringing forth a resolution to address unfunded liabilities of the Board, and he gave his notice at that stage.

MS. RYAN expressed her primary concern is, if the Board postpone the motion to April, it misses this session. She stated she is for the motion to table to look it, but also against the motion.

COMMISSIONER HULTBERG acknowledged MR. BRICE's comments at the December meeting, but because the Board has not run the models, she believes the Board is putting itself in a position where it's voting on a specific scenario without having the benefit of the actuarial analysis of that scenario, and she is very uncomfortable with that. MR. BRICE noted he does not see a scenario where, under any actuarial model, this would increase the liability.

MS. ERCHINGER stated her hope is that the Legislative Committee will meet no later than March 15th to address this resolution and come up with a solution to trying to, at least, get people at the same table before the Board votes on the resolution. That is the reason she supports postponement, in the hope it will be the impetus to get people to sit down and talk.

MR. BRICE stated he sees calls for in-state gas lines, for substantial bridges and infrastructure this state desperately needs, and for a real desire by this Governor and this Legislature to review our oil taxation system. He believes he is the only one that has brought up liability on a consistent basis.

COMMISSIONER HULTBERG confirmed her concern is the demand on the cash flow from the General Fund. She is concerned it undermines the credibility of the Board to advance a resolution without having done the work. MR. BRICE stated it addresses the cash flow issues of the state by ensuring that the calls on the state General Fund in the future will be substantially less. He also noted there are a number of calls on those reserves, and the more that the Board does now the less of a call will be had on the General Fund in 2032.

TRUSTEE RYAN requested the motion as stated before it was moved to table, to hear it as modified. CHAIR TRIVETTE re-read the changes. On the third "whereas" at the end of the first sentence, "The annual amount of state assistance." "Of state assistance" is part of the

amendment. The next line down where it says “will soon be,” the “be” was changed to be “exceed.” On the last paragraph, “Now, therefore, be it resolved,” and it says, “Now the Governor to allocate,” and the change is “in addition to state assistance” and then after “the sum of \$500 million toward the unfunded liability was added.”

CHAIR TRIVETTE asked for there additional debate on the motion to table; there was none.

ROLL CALL was done by JUDY HALL. The motion to table was tied, four in favor and four opposed, and MR. JOHNSON stated the motion fails.

CHAIR TRIVETTE made a motion to table to a Special Meeting of the Board between now and the April board meeting, the first week of April, to try to do something before the Legislature ends this session. MR. BRICE stated his intent to pass the resolution at today’s meeting because the issue is the Legislature adjourns April 15th. COMMISSIONER HULTBERG stated she cannot commit the actuary, but believe the Board could have these numbers run in a period of a couple of weeks. COMMISSIONER BUTCHER noted the Department of Revenue comes out with its spring revenue forecast the first couple of days of April, and the last-second spending decisions aren’t made for the end of session until they have that updated information.

CHAIR TRIVETTE proposes to have the meeting sometime between now and the April board meeting, probably at a time before the end of March. TRUSTEE PIHL proposes another friendly amendment to wording, and CHAIR TRIVETTE accepts that as the final wording of the motion.

MS. RYAN recommended the Board needs to have a policy that documents are in writing to the Board ahead of time to look at, given to the Board at one meeting and voted on at the next meeting. She stated she feels this is one of the most important things the Board has voted on, and she feels very uncomfortable about the wordsmithing that has gone on, without being able to see exactly what she is voting on.

CHAIR TRIVETTE moved to table this motion to a time certain, which time shall be before the end of March 2014 for a Special Meeting of the Board; MS. RYAN seconded the motion.

COMMISSIONER BUTCHER expressed his approval.

The motion passed.

MS. ERCHINGER expressed her hope that the primary outcome of this delay will be that the Board can possibly amend the resolution further, at the approval of the Board, to tell the Legislature what the impact is of this decision.

CHAIR TRIVETTE stated the Board is not going to set dates at this time. The motion to table has passed and that takes the Board through new business in terms of that resolution. With no objection, the Board reverted back to Unfinished Business.

UNFINISHED BUSINESS

1. Disclosure Reports

MS. HALL stated that the disclosure report was included in the packet.

2. Meeting schedule

MS. HALL reported the following additions to the calendar: 1) October 3 and 4, 2013, for the Education Conference.

3. Legal Report - Executive Session

MR. BADER stated he would like the Board to make a motion to go into Executive Session to hear advice on strategies from legal counsel.

MR. BRICE moved to go into Executive Session to receive advice from legal counsel; MS. RYAN seconded the motion.

CHAIR TRIVETTE noted there was no objection to the motion, and the Board will go off record at 11:52 to 12:27 to go into Executive Session.

CHAIR TRIVETTE calls the meeting back to order and notes the Board is out of Executive Session.

MS. HARBO moved the Board accept the recommendation of the Attorney General's office; MS. RYAN seconded the motion.

The motion passes unanimously.

OTHER MATTERS TO PROPERLY COME BEFORE THE BOARD

None

PUBLIC/MEMBER COMMENTS

None

INVESTMENT ADVISORY COUNCIL COMMENTS

None

TRUSTEE COMMENTS

MR. BRICE expressed his appreciation for the open and candid conversations about how the Board operates and stated it's something for ARMB Board consideration in the future.

MS. HARBO thanked the Retirement Benefits Division for the excellent and informative healthcare newsletter.

MS. ERCHINGER thanked the Division of Retirement and Benefits for significant improvements in the website and also thanked Judy Hall for all her good work that's been done to put information on the website.

MS. ERCHINGER would like to see the Legislative Committee meet to talk more about some of the issues that were addressed today, but also to come to a consensus as to a possible presentation to the Legislature. She suggested a letter to the Legislature that articulates the steps that the ARMB Board has taken in the last two years to reduce the unfunded liability.

MS. ERCHINGER requested more robust Meeting Minutes included in future packets so that some of the more important dialogues are captured. She also offered an apology to Bob Mitchell for her comments following his presentation, noting that he and his team do a great job with the market conditions, and that is no reflection on them.

CHAIR TRIVETTE stated a need to develop a process where Minutes come to the members of the committee before the next regular ARMB Board meeting and suggested the issue of Minutes needs to be done in a planning session. He stated, at the April meeting, he will make a recommendation and ask for a work session later in this year to look at some of these issues.

FUTURE AGENDA ITEMS

MR. PIHL stated interest assumption needs to be the Board's continuing thought.

COMMISSIONER HULTBERG suggested considering, at a future planning meeting, the Board have a fairly regular calendar or sequence of events that occurs, timing on when the Board receives reports, when they go to the Board, when the Board makes decisions, so recommendations are ready by the meeting and so that they are done prior to session.

MR. PIHL would like to add GASB 67 and 68, to the extent that they address the unfunded liability and how it's going to be addressed over time, on the future agenda items.

MS. ERCHINGER stated she has been working with Mr. Barnhill on a resolution that will be ready for the April meeting to address the allocation of administrative expenses as it relates to actuarial costs.

COMMISSIONER RODELL reminded the Trustees that work had started on revising the handbook, and it will be brought to the Board at some point during 2013.

COMMISSIONER HULTBERG made a data request to get a breakdown of management fees to understand, over time, what the impact of those management fees has been and to understand the cumulative impact of those. After some discussion of active management fees

in liquid versus illiquid assets, MR. BADER stated that providing the active fees would be relatively simple, but he would check with accounting for the closed-end real estate funds.

ADJOURNMENT

There being no objection and no further business to come before the Board, the meeting was adjourned at 12:45 p.m., on a motion by made MS. RYAN and seconded by COMMISSIONER HULTBERG.

Chair of the Board of Trustees
Alaska Retirement Management Board

ATTEST:

Secretary

State of Alaska
ALASKA RETIREMENT MANAGEMENT BOARD
SPECIAL TELECONFERENCE MEETING

Location of Meeting
11th Floor Conference Room
State Office Building, Willoughby Avenue
Juneau, Alaska

MINUTES OF
March 15, 2013

CALL TO ORDER

CHAIR GAIL SCHUBERT called the meeting of the Alaska Retirement Management Board (ARMB) to order at 2:00 p.m.

ROLL CALL

Six trustees were present by telephone or at the Juneau location at roll call to form a quorum. Ms. Harbo and Mr. Brice joined the meeting several minutes later.

ARMB Board Members Present

Gail Schubert, *Chair*
Sam Trivette, *Vice Chair*
Gayle Harbo, *Secretary*
Kristin Erchinger
Commissioner Becky Hultberg
Martin Pihl
Sandi Ryan
Tom Brice

ARMB Board Members Absent

Commissioner Bryan Butcher

Department of Revenue Staff Present

Angela Rodell, Deputy Commissioner
Gary M. Bader, Chief Investment Officer
Judy Hall, Board Liaison

Department of Administration Staff Present

Mike Barnhill, Deputy Commissioner
Jim Puckett, Division of Retirement & Benefits Director

Others Present

Rob Johnson, Board legal counsel
David Slishinsky, Buck Consultants, Inc.
Jay Dulaney, RPEA
Ron Johnson, RPEA member, Fairbanks
John Boucher, Office of Management and Budget

PUBLIC MEETING NOTICE

Judy Hall confirmed that public meeting notice requirements had been met.

APPROVAL OF AGENDA

MS. ERCHINGER moved to approve the agenda. MR. TRIVETTE seconded. MR. PIHL requested a review of the new Buck Consultants projections. The Chair said if there was no objection she would add it as item "VI. D."

MS. ERCHINGER said she did not object to placing this item on the agenda; however, she recalled a discussion at the last board meeting about the possibility of the resolution that was going before the legislature being able to articulate the results of the actuarial analysis. So if anyone wanted to have that information written into the resolution, discussion about the actuarial scenarios at the end of the agenda might not satisfy that goal.

MR. PIHL said he did not want any possible trouble with the new Buck scenarios to hold up passing the resolution. CHAIR SCHUBERT suggested that when the Board reached the discussion of the Buck scenarios on the agenda would be the time for Mr. Pihl to object to any efforts to amend the resolution.

PUBLIC/MEMBER PARTICIPATION, COMMUNICATIONS AND APPEARANCES

JAY DULANEY, with Retired Public Employees of Alaska (RPEA), mentioned a recent RPEA special edition dedicated to educating its members about the retirement systems' unfunded liability issue. He said they appreciated the Board addressing the unfunded liability previously by moving to the level dollar amortization method, and now by possibly recommending lump-sum contributions to the retirement system trust funds. RPEA fully supports the ARMB in this effort. Once the resolution is passed, he would recommend to RPEA members that they contact their legislators supporting the measure. He also believed that pension obligation bonds could help, especially in conjunction with the level dollar and cash infusions, and he urged the Board to support the implementation of those vehicles as well.

RON JOHNSON, a TRS retiree, said he was glad that last year the Board moved to recommend a level dollar pay-down method, especially in light of House members saying yesterday that they will have to reduce the [state] operating budget each year because there will be less revenue. The

current level percent pay-down goes exactly in the opposite direction, where there are increasing payments to the unfunded liability each year. He commended Trustee Brice for introducing a resolution to have \$500 million deposited in each of the next several years to pay off the unfunded liability. On the matter of the assumed 8% discount rate on investments, of six retirement entities — public, private, Europe, Canada and the United States — the only one that allows an 8% return are public entities in the United States. The others assume no more than a 6% investment return. If we assume 6% return, the unfunded liability would be over \$20 billion, so it is a very serious problem. He said he worries about the security of those who retire 10 or 20 years down the line. He concluded by thanking everyone for their service.

A. LEGISLATIVE COMMITTEE REPORT

Committee Chair GAIL SCHUBERT reported that the committee discussed and made revisions to the chronology of actions regarding the unfunded liability and other issues facing the retirement systems. *[The chronology, prepared by Ms. Hall, was in the meeting packet.]* She said they discussed a letter from the Board that will be sent to the legislative leadership, with a copy to Governor Parnell and other members of the legislature *[in the meeting packet]*. Lastly, the committee took up the draft resolution that was before the Board at this meeting.

B. CONSIDERATION OF RESOLUTION 2013-02 RELATING TO THE UNFUNDED LIABILITY

For clarity, CHAIR SCHUBERT inquired if the resolution presented and discussed at the February meeting had been tabled until this meeting.

After a short discussion, board attorney ROB JOHNSON stated that a motion on the resolution was tabled at the February meeting, and what is before the Board today is a somewhat different version of the resolution than what was tabled. The question is whether the maker and the second of the motion would be agreeable to friendly amendments that gave rise to the latest version of the draft resolution.

CHAIR SCHUBERT suggested bringing the unnumbered resolution from the February meeting back to the table so the Board could vote it down and then proceed with a clean slate with the introduction of a new resolution.

MR. BRICE said that, for the sake of simplicity, he wished to withdraw the unnumbered resolution that he introduced at the February board meeting.

MS. RYAN, as the second to the unnumbered resolution, said she felt uncomfortable withdrawing it after it was on the record. She proposed either voting it down or moving by substitution to replace it with Resolution 2013-02.

CHAIR SCHUBERT brought back up for a vote the unnumbered resolution that had been tabled until this meeting. She said a no vote meant that the resolution was voted down, and a yes vote

meant the resolution moved forward.

The roll was called on the original motion, and trustees Erchinger, Brice, Harbo, Hultberg, Pihl, Ryan, Trivette and Schubert voted no. The motion failed.

CHAIR SCHUBERT stated that the Legislative Committee voted to adopt Resolution 2013-02 with a recommendation that the full Board adopt it. She asked for a motion to adopt the resolution.

MR. BRICE moved to adopt Resolution 2013-02 [relating to the unfunded liability of the State retirement systems]. MS. HARBO seconded.

MR. PIHL said the resolution basically incorporated the friendly amendments that were before the Board previously, and he totally supported the resolution.

In the "Be It Further Resolved" section, MS. ERCHINGER suggested deleting the word "to" in the phrase "to appropriate" in the second line, and possibly inserting the word "legislative" immediately before the words "session" and "sessions" in the third line. She said she would rephrase it in the form of a motion if they were not considered housekeeping changes.

MS. HARBO further suggested a comma after the words "state assistance" in line two. MS. ERCHINGER agreed.

Responding to Ms. Erchinger's first change, CHAIR SCHUBERT said that given the way the sentence was structured the word "to" needed to be in there, as in "to appropriate."

When queried by the Chair, MR. BRICE and MS. HARBO agreed to consider the addition of the word "legislative" in line three as a friendly amendment.

The question was called, and a roll call vote was taken. Trustees Erchinger, Brice, Harbo, Hultberg, Pihl, Ryan, Trivette and Schubert voted yes. The motion passed unanimously.

CHAIR SCHUBERT thanked Mr. Brice and everyone who worked on the resolution.

C. CONSIDERATION OF DRAFT COMMUNICATION TO LEGISLATURE AND GOVERNOR

A copy of the letter was in the meeting packet, and CHAIR SCHUBERT asked for any comments.

MR. TRIVETTE expressed his concern that over a third of the legislators are new and might wonder what would happen next if they approved the appropriation request. He suggested a sentence at the end of the letter, as follows: "We will be glad to meet with the members of the legislature to explain the benefits to Alaskans of these annual \$500 million appropriations."

MR. JOHNSON recommended saying the ARMB Board instead of using the word "We" at the beginning of the sentence. There was no objection to that change.

CHAIR SCHUBERT said no official action was needed to approve the letter. She asked Ms. Hall to make the above change.

D. DISCUSSION OF BUCK PROJECTION SCENARIOS

MR. PIHL had a question about the employer contributions and the high funded ratios in Buck's projections, when the \$500 million appropriations are taken into consideration.

DAVID SLISHINSKY of Buck Consultants said he would have to spend more time looking at the projections and comparing them, in order to adequately answer Mr. Pihl's questions. He added that, as discussed last year, these projections reflect the two-year time lag between the time that the actuarial valuation is performed (and the contribution rate is determined) and time that that rate is applied for actual contributions. When the funded ratio goes from below 100% to above 100%, depending upon how those calculations are working at that point in time, there can be some additional contributions made that push the funded ratio above 100%. From that point forward, the interest or investment return that is granted on that excess contribution accumulates over time. When looking at a 60-year period, and the overfunded status that Mr. Pihl referenced is happening 20 years down the road, there is another 40 years' worth of projections after that. It means that that little extra is being accumulated and continues to gain investment return at the same time that the accrued liability is declining. So that ratio grows over time. He added that some of the projections have very little extra, while some other projections have a little bit more.

MR. PIHL said his fear was that the new projections, which showed a funded status of 1100% at year 2032, would lead someone to conclude that the retirement systems do not need the \$500 million appropriations. That would not be correct.

MR. SLISHINSKY agreed that would be an incorrect presumption.

MR. PIHL asked him to compare the projections, saying that he did not want the funded ratio to exceed 100%. The actuarial calculation should be made to reach 100% funding and stay there.

MS. ERCHINGER said she agreed with Mr. Pihl because the presentation is critical, in light of how these calculations were used to bring forth SB 187 in the prior legislative session. She understood that the intent as the projections were run was to stop employer contributions when the trust fund reached 100% funded, and logically that made perfect sense. However, recognizing that the additional employer contributions are causing an 1100% funded ratio, she would like to see the last year of employer and state contribution zeroed out to see what happens to the end, and then go up year by year and see at what point to stop zeroing employer contributions to end up with a system that is fully funded. That would give people a more realistic look at the impact of these contributions on trying to get a system that is completely funded at the end, not 1100%

overfunded.

MR. SLISHINSKY explained that they will have to do an adjustment by hand to reduce the contribution in that very year so that in the following year the funded ratio is calculated to exactly 100%, so there is no surplus at all that results from that prior year's contribution. Buck can do that by hand on all the projection scenarios, but it cannot be done using the software.

MR. PIHL drew attention to the 7% investment return schedule that showed employer contributions continuing out to 2072. MR. SLISHINSKY said that a loss is created whenever the actual result is unfavorable to the actuarial assumption, and then that loss is amortized over 25 years. The 7% return schedule shows it is an unfavorable result compared to the 8% assumption, and there is a loss created every single year going forward in the projection.

MR. PIHL said that was not what he wanted but rather to change the assumption to 7%, realizing that it will require higher contributions between now and 2032 to get to a 100% funding ratio.

MR. SLISHINSKY responded that he would work with staff in order to come up with a 7% long-term rate of return assumption to be used for the discount rate, and how much of that is a reduction to the real rate of return and how much of it is a reduction to the inflation rate. Once Buck knows that, then they can re-run the projections with the discount rate being 7% and any adjustment to inflation that affects the salary scale and the other economic assumptions.

MR. PIHL questioned why level percentage of pay schedules were even prepared, because the system was now on level dollar amortization. MR. SLISHINSKY said this is what Buck had understood was requested, and the 7% investment return they understood to mean what happens when you get 7% returns going forward. That is different than reducing the discount rate from 8% to 7% in the assumptions.

MR. BARNHILL stated that staff would endeavor to work with the Board and with the actuary to obtain whatever scenarios trustees want. He was concerned about having the actuary make manual changes to scenarios that change every year. And the Board has already expressed concern about the cost of the actuaries. Before having the actuary make manual changes, he suggested finding out how much effort that would take, and then sharing that information with the Board to see if the cost would be worth the effort.

CHAIR SCHUBERT said that sounded fair, if Board members did not have an objection.

MR. TRIVETTE also agreed. He suggested getting the group back together that worked on unfunded liability issues in late 2010, where they could be cognizant of the things that have been talked about today. He said he shared the same concerns voiced by others about level percent of pay and 7% returns.

CHAIR SCHUBERT indicated that she would act on the working group at a later time.

OTHER MATTERS TO PROPERLY COME BEFORE THE BOARD

HB 152

MR. BRICE mentioned that HB 152 was introduced that would exempt municipalities for certain termination cost studies, etc. He asked if the governor or the departments had taken a position on that at this stage, or if it was something the ARMB needed to be concerned about.

MS. RODELL said the Department of Revenue has looked at the bill and, because it does not impose any costs on the DOR Treasury Division or management of the trusts, the department has not provided any analysis or fiscal note on it.

MR. BARNHILL explained the genesis of HB 152 with the Alaska Municipal League. He said that because of the sliding scale used the bill added \$114 million to the unfunded liability. The bill is now with Buck Consultants to perform an actuarial analysis of the bill itself. He guessed that, with a fiscal impact of over \$100 million to the unfunded liability, at best the Department of Administration's position will remain "no position."

JOHN BOUCHER of OMB, responding to an earlier question from Trustee Brice about an appropriation, relayed that HB 65, Section 27 contained the special assistance payments to the retirement systems. It was \$312.4 million to PERS, \$316.8 million to TRS, and \$4.4 million to the Judicial Retirement System. He did not see any appropriations beyond the normal state assistance payments.

MR. BRICE thanked him for that clarification.

PUBLIC/TRUSTEE COMMENTS - None.

ADJOURNMENT

THERE BEING NO FURTHER BUSINESS TO COME BEFORE THE BOARD, AND NO OBJECTION, THE MEETING WAS ADJOURNED AT 2:52 P.M., ON A MOTION MADE BY MR. BRICE AND SECONDED BY MS. RYAN.

Chair of the Board of Trustees
Alaska Retirement Management Board

ATTEST:

Corporate Secretary

Note: The summary minutes are extracted from staff's recording of the meeting and are prepared by an outside contractor. For in-depth discussion and presentation details, please refer to the recording of the meeting and presentation materials on file at the ARMB office.

Confidential Office Services
Karen Pearce Brown
Juneau, Alaska

CIO REPORT

- Rebalance retirement funds to bring closer to asset allocation on February 7, 2013.
- Move \$36 million from Lord Abbett Small Cap to SSgA Russell 2000 Value index fund
- Initial response to Trustee Erchinger question on fund liquidity.
- Communication from Public Advocate for the City of New York and California Treasurer.
- Approve transfer of ownership of Victory Capital from KeyCorp to Crestview Partners.
- Rebalance retirement funds to bring closer to asset allocation on March 18, 2013.
- Rebalance retirement funds to bring closer to asset allocation on March 25, 2013.
- Transition from Lord Abbett small cap core to small cap growth.
- Move \$75 million from US Intermediate Treasury Fund to BlackRock ACWI Ex-US index fund.
- Report on fees paid by ARMB to investment managers, consultants, and investment advisory council.
- _____
- _____



THE STATE
of **ALASKA**
GOVERNOR SEAN PARNELL

Department of Revenue

ALASKA RETIREMENT MANAGEMENT BOARD

333 Willoughby Avenue, 11th Floor
PO Box 110405
Juneau, Alaska 99811-0405
Main: 907.465.3749
Fax: 907.465.2389

February 26, 2013

Michael McElligott
State Street Corporation
Lafayette Corporate Center
2 Avenue de Lafayette
LCC 3S
Boston, MA 02111-2900

Dear Mr. McElligott:

The Alaska Retirement Management Board (ARMB) requests the following changes to be made on **Wednesday, March 6, 2013**. Please process the following cash transfer as early as possible on that day:

Lord Abbett Small Cap (AY4H)	< \$36,000,000 >
SSgA Russell 2000 Value (AY4P)	\$36,000,000

If you have any questions, please do not hesitate to contact me at (907) 465-4399.

Sincerely,

A handwritten signature in blue ink that reads "Gary M. Bader".

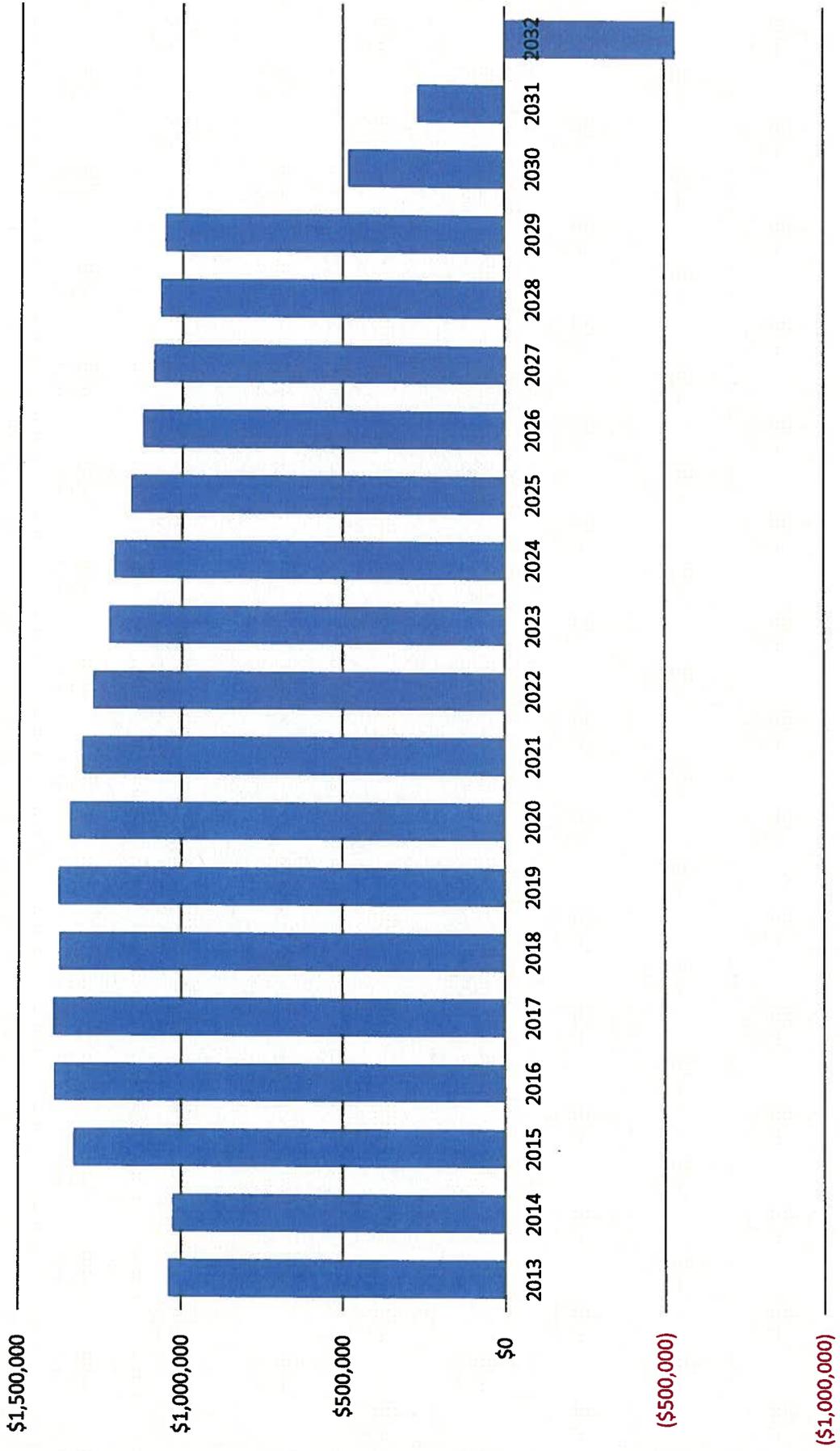
Gary M. Bader
Chief Investment Officer

Cc: Gail Schubert, ARMB Chair
Angela Rodell, Deputy Commissioner
Pam Leary, State Comptroller
Scott Jones, Assistant State Comptroller
James McKnight, Senior Investment Compliance Officer
Bob Mitchell, State Investment Officer
Steve Sikes, State Investment Officer
Shane Carson, State Investment Officer

GMB/smh

PERS/TRS COMBINED

Contributions + Earnings – Benefit Payments





February 27, 2013

Mr. Gary Bader
Alaska Department of Administration, Retirement and Benefits
6th Floor State Office Building
P.O. Box 110203
Juneau, AK 99811-0203

Dear Mr. Bader:

The horrific mass murder at Sandy Hook Elementary School in Newtown, Connecticut was a wake-up call for our nation, and underscored a growing epidemic of gun violence that threatens every American. In New York City and California, we have initiated the process of divesting our public pension fund holdings in companies that manufacture military-grade assault weapons and high-capacity ammunition magazines for sale on the civilian market. In recent weeks, other public pension funds, including the Philadelphia Board of Pensions and Retirement and Chicago Teachers' Pension Fund, have initiated similar processes. We urge you to join this growing movement.

Our nation's state and local public-employee retirement systems oversee more than \$3 trillion in total cash and investment holdings, placing them among the largest institutional investors in the world. As pension fund trustees, we have a fiduciary responsibility to consider the long-term sustainability of companies in which we invest. The increased potential liability for gun manufacturers, and gun companies' links to recent tragedies, make investments in firearms manufacturers a poor investment decision. Increased regulation and possible litigation against these gun manufacturers could well have an adverse effect on pension funds invested in the sector. In light of these risks, we believe divestment from these companies is both prudent and necessary.

Moreover, as we review our investments, we must remember our duties as public servants and trustees. Just as we have a duty as responsible investors to avoid undue risk in our investments, we also have a duty to invest in sectors that are not inflicting damage to our communities. Divesting from the makers of military grade assault weapons and high capacity ammunition magazines helps make our communities safer. In short, divesting from companies that manufacture these dangerous products protects our portfolios, our employees and retirees, our families and our children.

Thank you very much for your attention to this matter.

Sincerely,

Handwritten signature of Bill de Blasio in black ink.

Bill de Blasio
Public Advocate for the City of New York

Handwritten signature of Bill Lockyer in black ink.

Bill Lockyer
Treasurer for the State of California



March 14, 2013

Mr. Gary Bader
Alaska Retirement Management Board (ARMB)
PO Box 110405
Juneau, AK 99811-0405

Our Reference: VC0381

RE: Victory Capital Management Inc. – Acquisition by Crestview Partners II, L.P. and its affiliated funds

Dear Mr. Bader,

As previously announced, KeyCorp has agreed to sell Victory Capital Management Inc. ("Victory") to Crestview Partners II, L.P. and its affiliated co-investing funds ("Crestview"), which are private equity funds sponsored by Crestview Partners (such sale, the "Transaction"). Certain members of Victory's management have agreed to participate alongside Crestview in the Transaction.

We believe the Transaction enhances our stability, allows us to continue to attract and retain top investment talent and better aligns our clients' interests with those of the firm. Additionally, it allows Victory employees a unique opportunity to participate in the ownership and future direction of Victory. Crestview Partners, which has significant experience in and knowledge about the asset management industry, supports Victory's current business model and is committed to helping Victory continue to provide high quality investment services to our clients and to facilitating the growth of our business. While Victory will operate as a stand-alone business, we believe the affiliation with Crestview will benefit you and all our other valued clients.

Completion of the Transaction is currently expected to take place in the third quarter of 2013 and is subject to customary closing conditions. Following the closing of the Transaction, Victory will be owned by Crestview and certain employees of Victory.

In connection with the anticipated closing of the Transaction, Victory requests your affirmative written consent to the assignment of your investment management agreement with Victory dated April 1, 2012 (as it has been, or may be, amended from time to time, the "Agreement"). Although the change in control of Victory resulting from the Transaction will constitute an "assignment" of the Agreement for purposes of the Agreement and/or under applicable law, your relationship with Victory and the terms of the Agreement will not change if you provide your consent, and Victory is not assigning the Agreement to any other entity in connection with the Transaction. Victory will continue to be your investment adviser, and your account at Victory will continue to be managed in the same manner by the same portfolio managers and serviced by the same client service team.

Please indicate your consent to the assignment of the Agreement in connection with the Transaction by signing below and returning the executed consent to Don Frank at dfrank@vcm.com or by facsimile to (216) 370-5799.

We would very much appreciate receiving your response by May 1, 2013. If you have any questions regarding this request, please do not hesitate to contact Don Frank at (314) 854-1340. We value your relationship with us and appreciate your business.

Very truly yours,

A handwritten signature in blue ink that reads "David Brown".

David Brown

The undersigned hereby consents to the assignment of the Agreement in connection with the Transaction as described above.

Revenue/Treasury Division,

By: _____

Title: Chief Investment Officer

Print Name: _____

Date: _____

Revenue/Treasury Division,

By: _____

Title: Commissioner

Print Name: _____

Date: _____

The State of Alaska - Alaska Retirement Management Board,

By: _____

Title: Chair

Print Name: _____

Date: _____

ALASKA RETIREMENT MANAGEMENT BOARD

SUBJECT: Small Cap Growth
Lord, Abbett & Co.

ACTION: _____

DATE: April 18, 2013

INFORMATION: X

BACKGROUND:

Lord, Abbett & Co. (Lord Abbett) was hired in April 2005 to manage a small cap core portfolio for the Alaska Retirement Management Board (ARMB). As of December 31, 2012, the portfolio's gross return since inception has underperformed its benchmark, the Russell 2000 Index, by an annualized 35 bps.

STATUS:

Lord Abbett has elected to transition the small cap core strategy to a small-mid cap strategy. As a result, ARMB has the opportunity to transition funds out of the underperforming fund and into the Lord Abbett Small Cap Growth strategy which has been closed to new investment since March 31, 2011. The Lord Abbett Small Cap Growth portfolio has displayed strong long-term performance, outperforming the Russell 2000 Growth Index as well as the Callan Small Cap Growth Composite over the past 3, 5, 7, and 10 year performance periods.

Small Cap Growth Returns for Periods Ended December 31, 2012

	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
LordAbb:Sm Cap Growth	11.62	15.32	3.98	9.59	12.25
Russell:2000 Growth	14.59	12.82	3.49	5.35	9.80
CAI:Sm Cap Growth Style	14.30	13.97	2.41	5.67	10.82

Source: Callan Associates

The addition of Lord Abbett's Small Cap Growth strategy to ARMB's small cap portfolio would complement the recent small cap value additions of Barrow, Hanley, Mewhinney & Strauss, Frontier Capital Management, and Victory Capital Management and further balance ARMB's small cap portfolio's style exposure. Lord Abbett has agreed to cover the commission costs associated with transitioning the current portfolio into the small cap growth strategy which State Street Global Markets has estimated to be approximately \$76,115 when using the Russell 2000 Growth Index as the target portfolio. It is the intent of staff to transition into the Small Cap Growth strategy as described above.



THE STATE
of **ALASKA**
GOVERNOR SEAN PARNELL

Department of Revenue

ALASKA RETIREMENT MANAGEMENT BOARD

333 Willoughby Avenue, 11th Floor
PO Box 110405
Juneau, Alaska 99811-0405
Main: 907.465.3749
Fax: 907.465.2389

February 20, 2013

Michael McElligott
State Street Corporation
Lafayette Corporate Center
2 Avenue de Lafayette
LCC 3S
Boston, MA 02111-2900

Dear Mr. McElligott:

The Alaska Retirement Management Board (ARMB) requests the following changes to be made on **Thursday, February 28, 2013**:

US Intermediate Treasury Fund (AY1A)	< \$75,000,000 >
BlackRock ACWI Ex-US IMI (AY6U)	\$75,000,000

Subsequent to the above transfer, ARMB directs State Street to wire \$75,000,000 from AY6U to BlackRock on **Thursday, February 28, 2013** using the following wire instructions:

Bank: State Street Bank & Trust Company, Boston

ABA #: 011000028

Account Name: Sacramento Transfer Agency, 8BQ1

Account Number: 0050-845-7

For Further Credit To Account Number: 324875

For Further Credit To Client Name: ARMB-Retirement & Benefit Plans

If you have any questions, please do not hesitate to contact me at (907) 465-4399.

Sincerely,

A handwritten signature in cursive script that reads "Gary M. Bader".

Gary M. Bader
Chief Investment Officer

ARMB Fees based on updated CAFR information
 ALL Systems - External Managers Only
 Schedule of Investment Management Fees
 Year Ended June 30, 2012

	Total Fair Value	Fees
International Fixed Income		
Mondrian Investment Partners	376,204,014	1,445,248
(b) Lazard Emerging Income	124,050,302	1,107,364
Total International Fixed Income	500,254,316	2,552,612
High Yield Pool		
Mackay Shields, LLC	443,294,845	1,893,722
Total High Yield	443,294,845	1,893,722
Domestic Equity Pools		
(a) Relational Investors	241,656,506	2,462,123
Advent Capital	113,744,052	667,065
Barrow, Hanley, Mewhinney & Strauss, INC	256,713,681	1,233,620
Jennison Associates LLC	126,424,851	998,850
Lazard Asset Management	298,317,463	891,908
Lord Abbett & Co.	203,377,424	1,665,933
Luther King Cap. Management	129,440,552	671,732
Victory Capital Management	72,436,485	85,848
Frontier Capital Management	113,341,088	607,989
McKinley Capital	326,547,786	1,136,779
Quantitative Management Associates	142,878,145	506,749
SSgA Russell 1000 Growth	767,650,307	106,046
SSgA Russell 1000 Value	948,909,965	131,483
SSgA Russell 2000 Growth	11,438,289	15,532
SSgA Russell 2000 Value	12,116,847	28,237
SSgA Russell 200	394,463,722	53,465
SSgA Futures Large Cap	8,926,073	14,395
SSgA Future Small Cap	6,347,200	10,815
DePrince, Race & Zollo Inc.-Micro Cap	73,063,427	822,688
Analytic Buy Write Account	112,486,019	178,457
RCM Buy Write Account	99,436,225	488,838
RCM	348,623,351	1,061,220
Total Domestic Equities	4,808,339,458	13,839,772
Private Equity Pool		
(a) BlumCapital Partners-Strategic	15,823,907	310,506
(a) Warburg Pincus X	29,104,015	448,036
(a) Angelo Gordon & Co.	25,169,231	433,809
(a) Onex Partners	11,038,426	406,088
(a) Lexington Partners	35,378,687	813,836

(a,c)	Pathway Capital Management	745,877,854	2,276,667
(a,c)	Abbott Capital Management	735,952,298	1,899,637
(a)	Merit Capital Partners	7,718,108	336,295
	Total Private Equities	1,606,062,526	6,924,874

International Equity Pools

	SSgA	481,144,639	274,422
	Brandes Investment Partners	729,985,965	2,860,940
	Capital Guardian Trust Co.	564,558,876	1,988,429
	McKinley Capital Mgmt.	299,246,866	1,542,678
	Lazard Freres	363,316,411	517,526
	Mondrian Investment Partners	111,465,408	843,821
	Schroder Investment Management	104,448,423	866,040
	Total International Equities	2,654,166,588	8,893,857

Absolute Return Pool

(b,c)	Mariner Investment Group	142,172,374	1,617,529
	Cadogan Management LLC	93,714	-
(b,c)	Crestline Investors Inc.	254,032,224	1,981,295
(b,c)	Global Asset Management	144,476,253	1,215,848
(b,c)	Prisma Capital Partners	146,350,720	1,241,813
	Total Absolute Return	687,125,285	6,056,485

Emerging Markets Equity Pool

	The Capital Group Inc.	351,710,028	2,383,405
	Lazard Freres Asset Managers	314,418,957	3,111,799
	Eaton Vance	194,166,233	1,513,149
	Total Emerging Markets	860,295,218	7,008,353

Real Estate Pool

	JPM Strategic	176,584,969	1,497,943
(b)	UBS Consolidated	74,817,199	746,852
(b)	Cornerstone	92,347,704	960,182
(b)	Lasalle	207,553,762	1,481,953
(b)	Sentinel , SA	111,101,172	636,549
(b)	UBS Separate	258,893,248	1,550,045
(a)	Lowe Hospitality	5,373,074	64,792
(a)	ING Clarion	22,998,902	603,369
(a)	Silverpeak Legacy Pension Partners	83,258,009	1,196,102
(a)	Rothschild Five Arrows	64,600,213	589,145
(a)	Tishman Speyer	85,973,431	1,088,191
(a)	BlackRock Diamond	23,725,085	265,189
(a)	Colony Investors VIII, L.P.	19,560,051	639,100
(a)	LaSalle Medical Office Fund II	22,043,649	344,106
(a)	Cornerstone Apartment Venture III	30,597,190	371,426

(a) Coventry	17,481,922	330,812
Total Real Estate	<u>1,296,909,580</u>	<u>12,365,756</u>
Timber Pool		
(b) Timberland INVT Resources	148,324,568	1,011,900
(b) Hancock Natural Resource Group	<u>80,302,054</u>	<u>660,356</u>
Total Timber Pool	<u>228,626,622</u>	<u>1,672,257</u>
Farmland Pool		
Hancock Agriculture Investment Group	234,436,304	1,783,294
UBS Agrivest	<u>374,770,844</u>	<u>2,718,102</u>
Total Farmland	<u>609,207,148</u>	<u>4,501,396</u>
Farmland Water Pool		
Hancock Farmland & Water	8,872,375	71,220
UBS Agrivest	<u>20,422,800</u>	<u>162,163</u>
Total Farmland Water Pool	<u>29,295,175</u>	<u>233,383</u>
Energy Pool		
(a) EIG Energy Fund XV	26,845,034	446,107
(a) EIG Energy Fund XD	9,904,936	141,101
(a) EIG Energy Fund XIV-A	<u>79,172,767</u>	<u>1,028,213</u>
Total Energy Pool	<u>115,922,737</u>	<u>1,615,421</u>
Custodian		
State Street Bank		<u>957,205</u>
Investment Advisory		
Townsend Group		100,000
Callan Associates		106,090
Investment Advisory Council		<u>29,586</u>
Total Investment Advisory		<u>235,676</u>
Investment Performance		
Callan Associates		<u>265,225</u>
Total External Management Fees	<u>13,839,499,498</u>	<u>69,015,993</u>

Notes

Totals are for external investment managers only and exclude \$2.4 billion in assets managed internally.

(a) Returns are net of fees which include profit sharing. Only management fees are included in this schedule since the profit sharing is long term and not annual in nature.

(b) Returns are net of fees and this schedule includes both management fees and profit sharing since both are paid regularly.

(c) Investment managers manage a portfolio of underlying funds. Estimated fees for the underlying funds in millions are: Abbott \$12.0, Pathway \$11.1, Crestline \$5.7, Mariner \$5.0.

ALASKA RETIREMENT MANAGEMENT BOARD

FINANCIAL REPORT

As of February 28, 2013

ALASKA RETIREMENT MANAGEMENT BOARD
Schedule of Investment Income and Changes in Invested Assets by Fund
For the Eight Months Ending February 28, 2013

	<u>Beginning Invested Assets</u>	<u>Investment Income (¹)</u>	<u>Net Contributions (Withdrawals)</u>	<u>Ending Invested Assets</u>	<u>% Change in Invested Assets</u>	<u>% Change due to Investment Income (²)</u>
<u>Public Employees' Retirement System (PERS)</u>						
<u>Defined Benefit Plans:</u>						
Retirement Trust	\$ 6,105,946,336	\$ 550,491,666	\$ (70,062,890)	\$ 6,586,375,112	7.87%	9.07%
Retirement Health Care Trust	5,193,885,276	468,348,646	58,189,723	5,720,423,645	10.14%	8.97%
Total Defined Benefit Plans	<u>11,299,831,612</u>	<u>1,018,840,312</u>	<u>(11,873,167)</u>	<u>12,306,798,757</u>	8.91%	9.02%
<u>Defined Contribution Plans:</u>						
Participant Directed Retirement	236,965,621	30,724,526	41,827,385	309,517,532	30.62%	11.91%
Health Reimbursement Arrangement	74,424,033	7,119,408	14,672,640	96,216,081	29.28%	8.71%
Retiree Medical Plan	15,337,965	1,432,616	2,037,089	18,807,670	22.62%	8.76%
Defined Benefit Occupational Death and Disability:						
Public Employees	6,387,143	585,811	552,857	7,525,811	17.83%	8.79%
Police and Firefighters	2,499,287	237,205	425,010	3,161,502	26.50%	8.75%
Total Defined Contribution Plans	<u>335,614,049</u>	<u>40,099,566</u>	<u>59,514,981</u>	<u>435,228,596</u>	29.68%	10.98%
Total PERS	<u>11,635,445,661</u>	<u>1,058,939,878</u>	<u>47,641,814</u>	<u>12,742,027,353</u>	9.51%	9.08%
<u>Teachers' Retirement System (TRS)</u>						
<u>Defined Benefit Plans:</u>						
Retirement Trust	3,005,557,437	278,126,070	(21,151,082)	3,262,532,425	8.55%	9.29%
Retirement Health Care Trust	1,644,357,499	152,732,528	48,485,103	1,845,575,130	12.24%	9.15%
Total Defined Benefit Plans	<u>4,649,914,936</u>	<u>430,858,598</u>	<u>27,334,021</u>	<u>5,108,107,555</u>	9.85%	9.24%
<u>Defined Contribution Plans:</u>						
Participant Directed Retirement	107,836,445	13,561,523	13,065,167	134,463,135	24.69%	11.86%
Health Reimbursement Arrangement	24,431,777	2,272,478	3,578,384	30,282,639	23.95%	8.67%
Retiree Medical Plan	6,744,806	615,053	588,334	7,948,193	17.84%	8.74%
Defined Benefit Occupational Death and Disability	2,310,906	203,748	(23)	2,514,631	8.82%	8.82%
Total Defined Contribution Plans	<u>141,323,934</u>	<u>16,652,802</u>	<u>17,231,862</u>	<u>175,208,598</u>	23.98%	11.11%
Total TRS	<u>4,791,238,870</u>	<u>447,511,400</u>	<u>44,565,883</u>	<u>5,283,316,153</u>	10.27%	9.30%
<u>Judicial Retirement System (JRS)</u>						
Defined Benefit Plan Retirement Trust	107,053,406	9,714,923	(261,393)	116,506,936	8.83%	9.09%
Defined Benefit Retirement Health Care Trust	20,482,507	1,798,177	(308,326)	21,972,358	7.27%	8.85%
Total JRS	<u>127,535,913</u>	<u>11,513,100</u>	<u>(569,719)</u>	<u>138,479,294</u>	8.58%	9.05%
<u>National Guard/Naval Militia Retirement System (MRS)</u>						
Defined Benefit Plan Retirement Trust	32,700,652	2,347,310	(466,310)	34,581,652	5.75%	7.23%
<u>Other Participant Directed Plans</u>						
Supplemental Annuity Plan	2,656,000,434	200,000,322	2,175,844	2,858,176,600	7.61%	7.53%
Deferred Compensation Plan	614,417,787	49,126,181	1,207,547	664,751,515	8.19%	7.99%
Total All Funds	<u>19,857,339,317</u>	<u>1,769,438,191</u>	<u>94,555,059</u>	<u>21,721,332,567</u>		
Total Non-Participant Directed	16,242,119,030	1,476,025,639	36,279,116	17,754,423,785	9.31%	9.08%
Total Participant Directed	3,615,220,287	293,412,552	58,275,943	3,966,908,782	9.73%	8.05%
Total All Funds	<u>\$ 19,857,339,317</u>	<u>\$ 1,769,438,191</u>	<u>\$ 94,555,059</u>	<u>\$ 21,721,332,567</u>	9.39%	8.89%

Notes:

(1) Includes interest, dividends, securities lending, expenses, realized and unrealized gains/losses

(2) Income divided by beginning assets plus half of net contributions/(withdrawals). Actual returns are calculated by Callan and Associates and can be found at: <http://www.revenue.state.ak.us/treasury/programs/programs/other/armb/investmentresults.aspx>

ALASKA RETIREMENT MANAGEMENT BOARD
Schedule of Investment Income and Changes in Invested Assets by Fund
For the Month Ended February 28, 2013

	<u>Beginning Invested Assets</u>	<u>Investment Income (¹)</u>	<u>Net Contributions (Withdrawals)</u>	<u>Ending Invested Assets</u>	<u>% Change in Invested Assets</u>	<u>% Change due to Investment Income (²)</u>
<u>Public Employees' Retirement System (PERS)</u>						
<u>Defined Benefit Plans:</u>						
Retirement Trust	\$ 6,585,101,859	\$ 31,460,040	\$ (30,186,787)	\$ 6,586,375,112	0.02%	0.48%
Retirement Health Care Trust	5,701,322,309	27,217,795	(8,116,459)	5,720,423,645	0.34%	0.48%
Total Defined Benefit Plans	<u>12,286,424,168</u>	<u>58,677,835</u>	<u>(38,303,246)</u>	<u>12,306,798,757</u>	0.17%	0.48%
<u>Defined Contribution Plans:</u>						
Participant Directed Retirement	302,536,384	1,167,452	5,813,696	309,517,532	2.31%	0.38%
Health Reimbursement Arrangement	93,723,927	449,942	2,042,212	96,216,081	2.66%	0.47%
Retiree Medical Plan	18,452,844	88,408	266,418	18,807,670	1.92%	0.48%
Defined Benefit Occupational Death and Disability:						
Public Employees	7,420,133	35,501	70,177	7,525,811	1.42%	0.48%
Police and Firefighters	3,095,240	14,837	51,425	3,161,502	2.14%	0.48%
Total Defined Contribution Plans	<u>425,228,528</u>	<u>1,756,140</u>	<u>8,243,928</u>	<u>435,228,596</u>	2.35%	0.41%
Total PERS	<u>12,711,652,696</u>	<u>60,433,975</u>	<u>(30,059,318)</u>	<u>12,742,027,353</u>	0.24%	0.48%
<u>Teachers' Retirement System (TRS)</u>						
<u>Defined Benefit Plans:</u>						
Retirement Trust	3,272,448,340	15,775,565	(25,691,480)	3,262,532,425	-0.30%	0.48%
Retirement Health Care Trust	1,842,913,957	8,791,453	(6,130,280)	1,845,575,130	0.14%	0.48%
Total Defined Benefit Plans	<u>5,115,362,297</u>	<u>24,567,018</u>	<u>(31,821,760)</u>	<u>5,108,107,555</u>	-0.14%	0.48%
<u>Defined Contribution Plans:</u>						
Participant Directed Retirement	131,602,756	547,059	2,313,320	134,463,135	2.17%	0.41%
Health Reimbursement Arrangement	29,553,324	141,038	588,277	30,282,639	2.47%	0.47%
Retiree Medical Plan	7,816,784	37,300	94,109	7,948,193	1.68%	0.47%
Defined Benefit Occupational Death and Disability	2,502,691	11,940	-	2,514,631	0.48%	0.48%
Total Defined Contribution Plans	<u>171,475,555</u>	<u>737,337</u>	<u>2,995,706</u>	<u>175,208,598</u>	2.18%	0.43%
Total TRS	<u>5,286,837,852</u>	<u>25,304,355</u>	<u>(28,826,054)</u>	<u>5,283,316,153</u>	-0.07%	0.48%
<u>Judicial Retirement System (JRS)</u>						
Defined Benefit Plan Retirement Trust	116,623,457	551,115	(667,636)	116,506,936	-0.10%	0.47%
Defined Benefit Retirement Health Care Trust	21,909,271	104,480	(41,393)	21,972,358	0.29%	0.48%
Total JRS	<u>138,532,728</u>	<u>655,595</u>	<u>(709,029)</u>	<u>138,479,294</u>	-0.04%	0.47%
<u>National Guard/Naval Militia Retirement System (MRS)</u>						
Defined Benefit Plan Retirement Trust	34,611,376	116,365	(146,089)	34,581,652	-0.09%	0.34%
<u>Other Participant Directed Plans</u>						
Supplemental Annuity Plan	2,841,655,420	16,847,049	(325,869)	2,858,176,600	0.58%	0.59%
Deferred Compensation Plan	662,928,544	3,813,119	(1,990,148)	664,751,515	0.27%	0.58%
Total All Funds	<u>21,676,218,616</u>	<u>107,170,458</u>	<u>(62,056,507)</u>	<u>21,721,332,567</u>		
Total Non-Participant Directed	17,737,495,512	84,795,779	(67,867,506)	17,754,423,785	0.10%	0.48%
Total Participant Directed	3,938,723,104	22,374,679	5,810,999	3,966,908,782	0.72%	0.57%
Total All Funds	<u>\$ 21,676,218,616</u>	<u>\$ 107,170,458</u>	<u>\$ (62,056,507)</u>	<u>\$ 21,721,332,567</u>	0.21%	0.50%

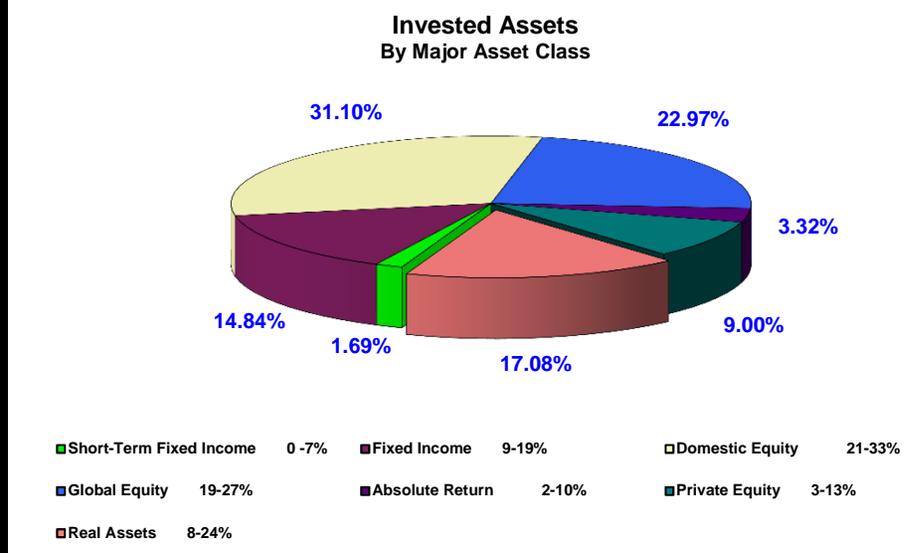
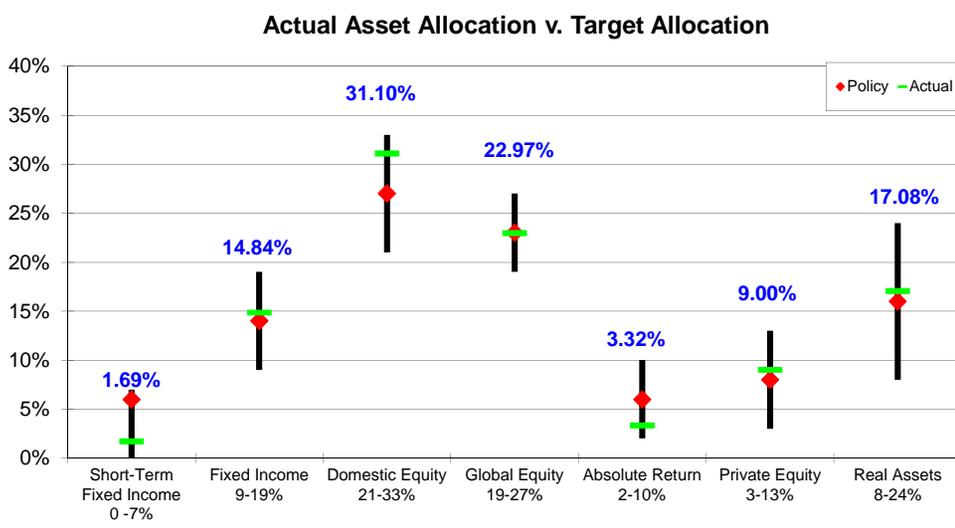
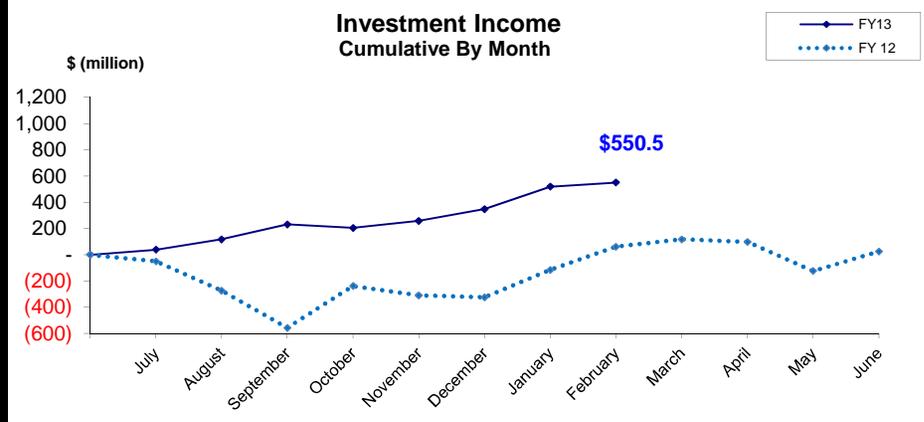
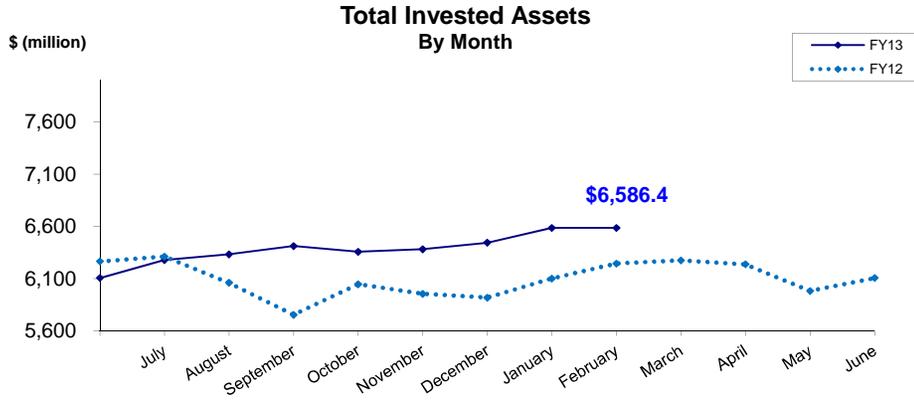
Notes:

(1) Includes interest, dividends, securities lending, expenses, realized and unrealized gains/losses

(2) Income divided by beginning assets plus half of net contributions/(withdrawals). Actual returns are calculated by Callan and Associates and can be found at: <http://www.revenue.state.ak.us/treasury/programs/programs/other/armb/investmentresults.aspx>

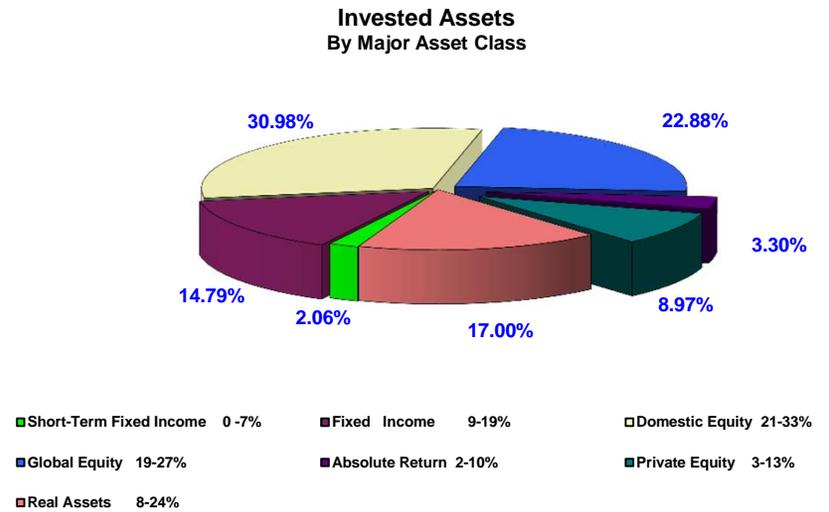
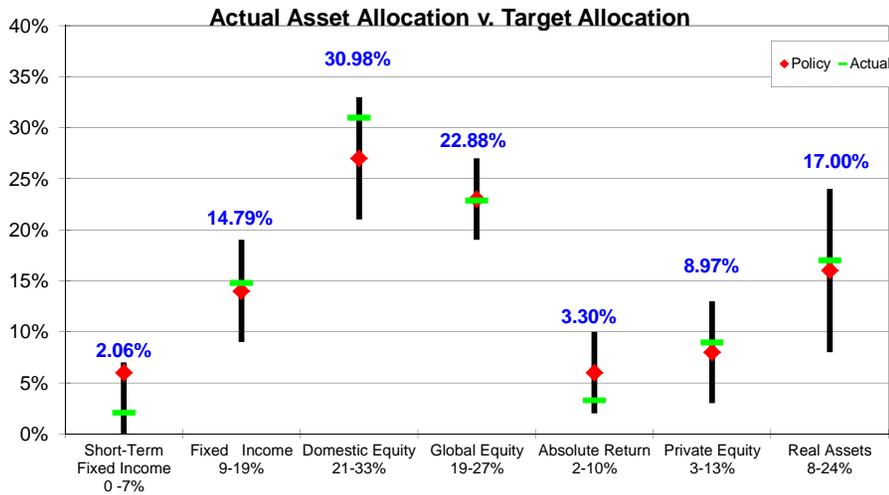
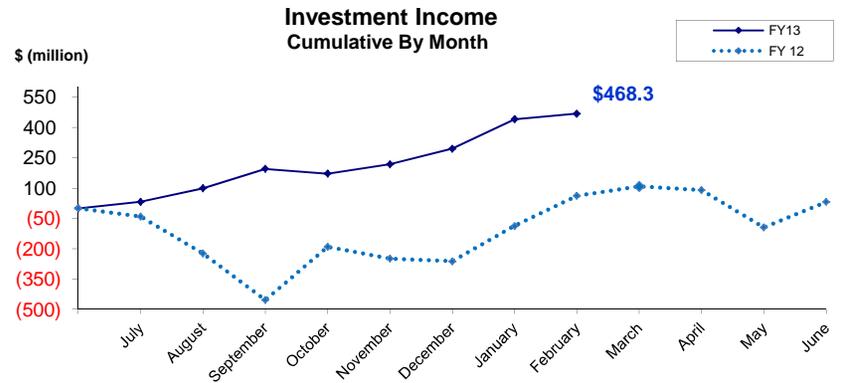
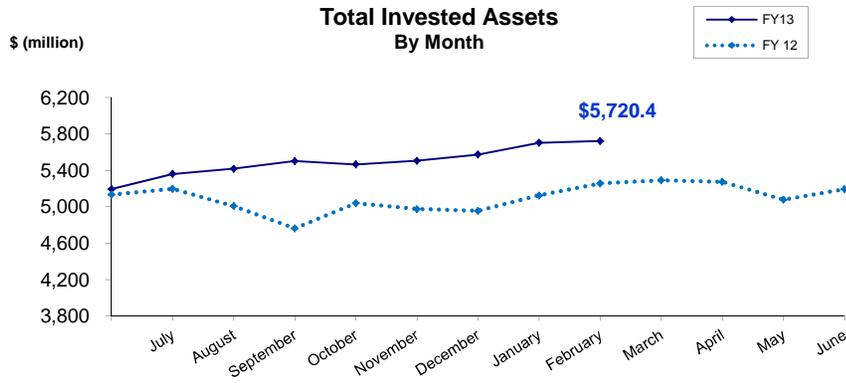
PUBLIC EMPLOYEES' RETIREMENT TRUST FUND

As of February 28, 2013



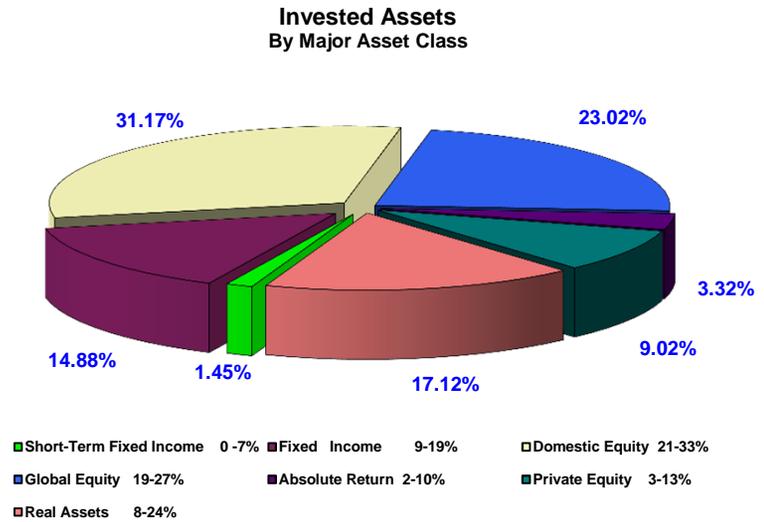
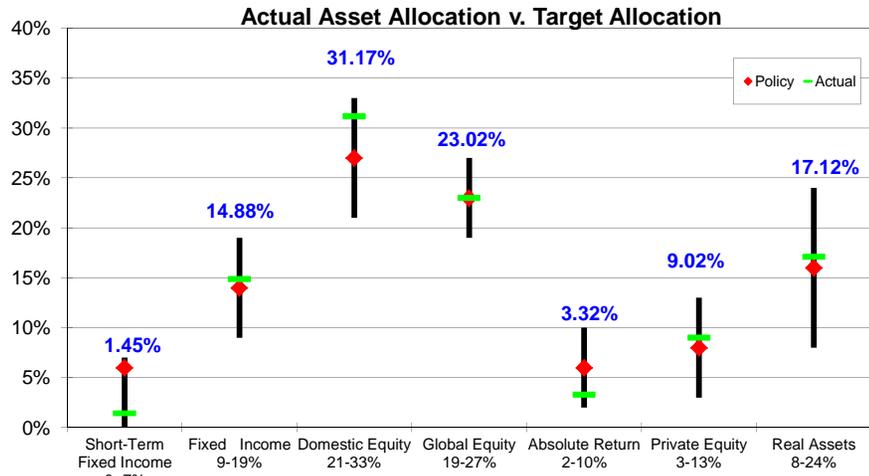
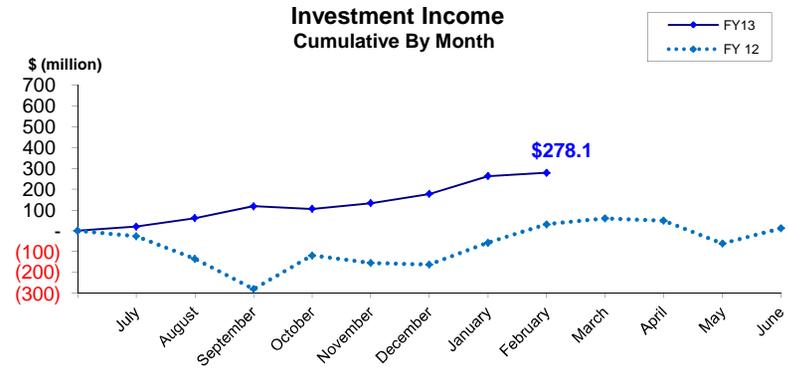
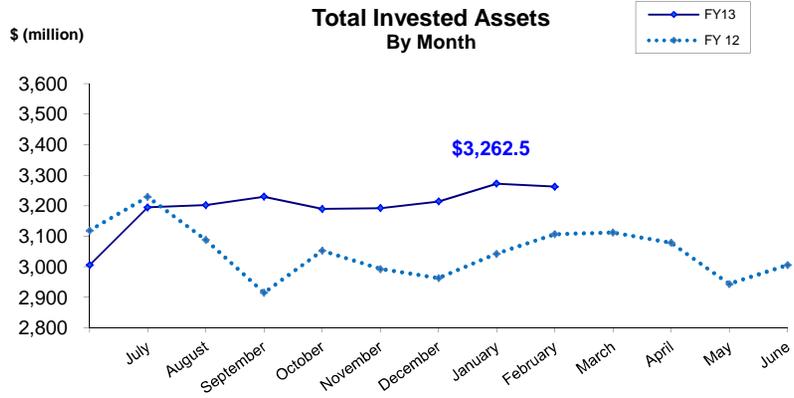
PUBLIC EMPLOYEES' RETIREE HEALTH CARE TRUST FUND

As of February 28, 2013



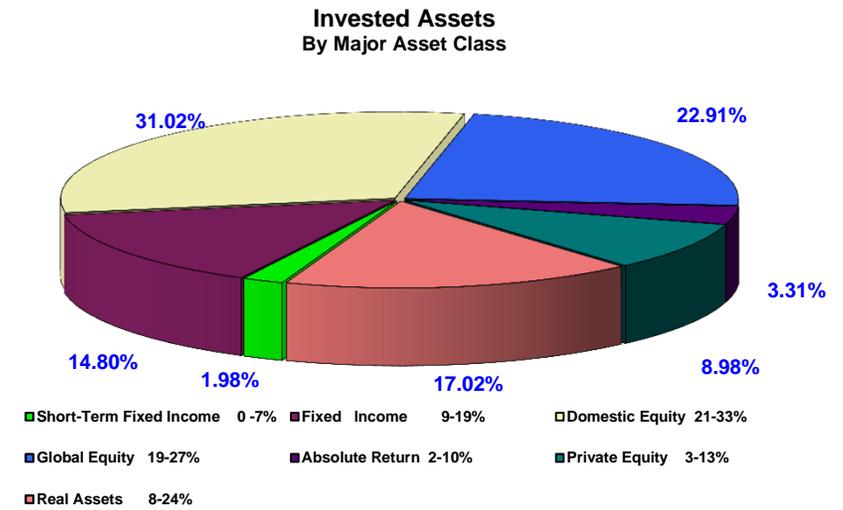
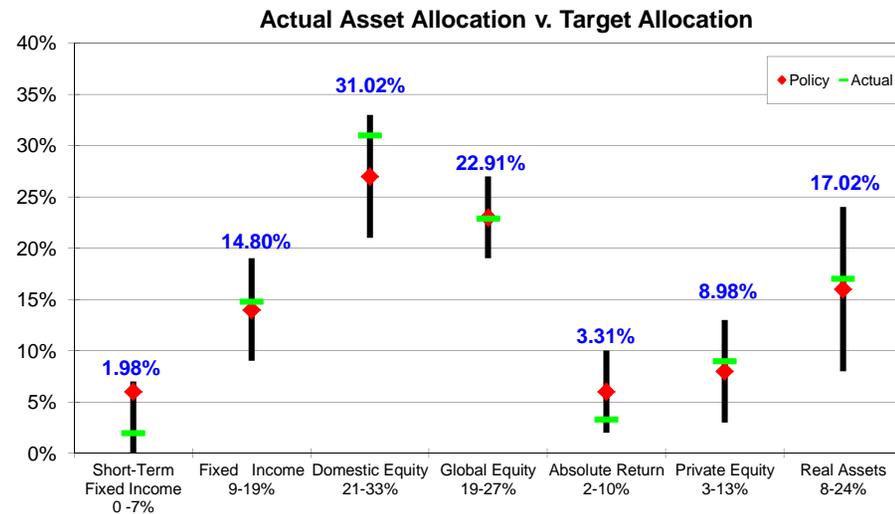
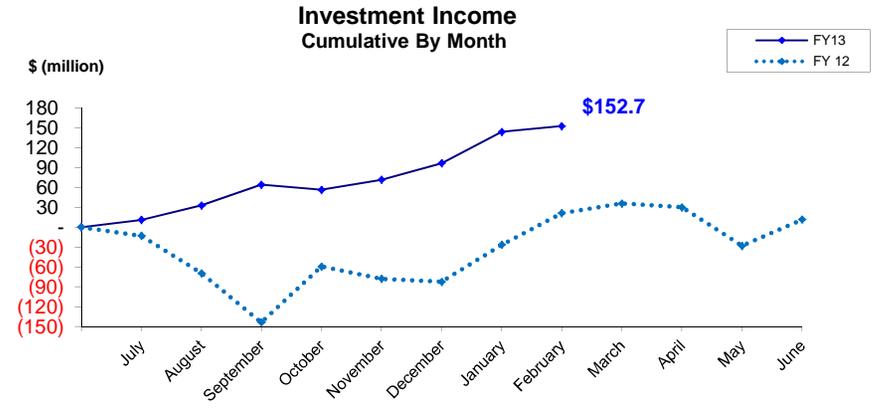
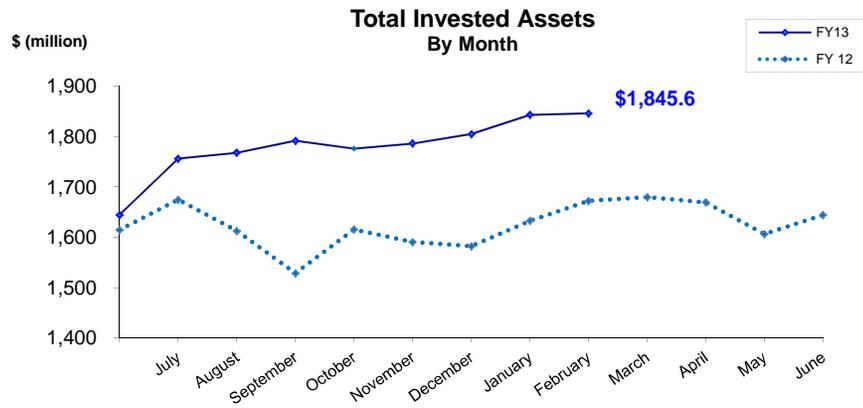
TEACHERS' RETIREMENT TRUST FUND

As of February 28, 2013



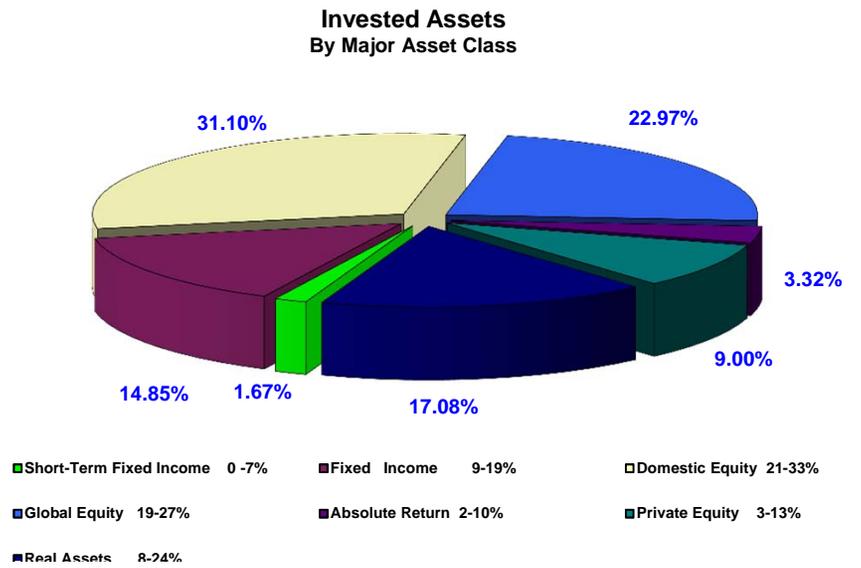
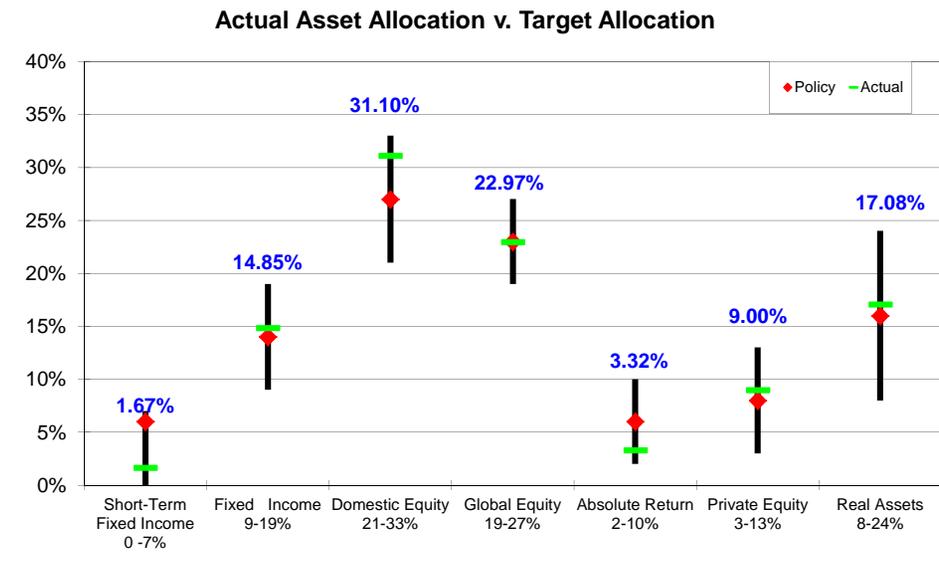
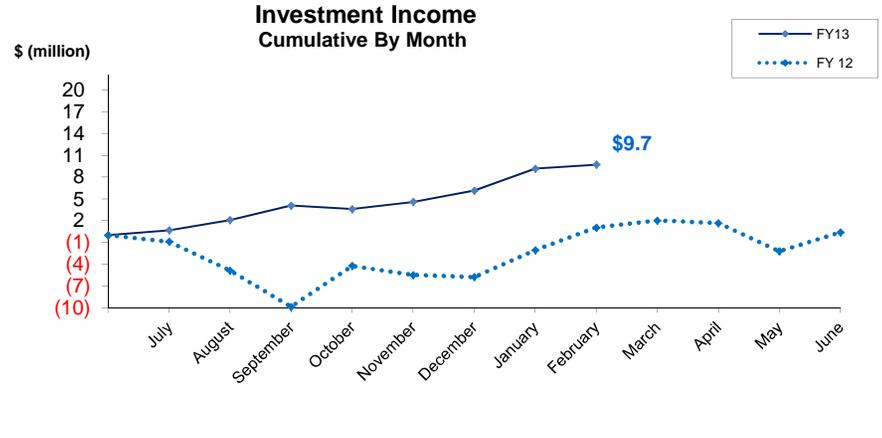
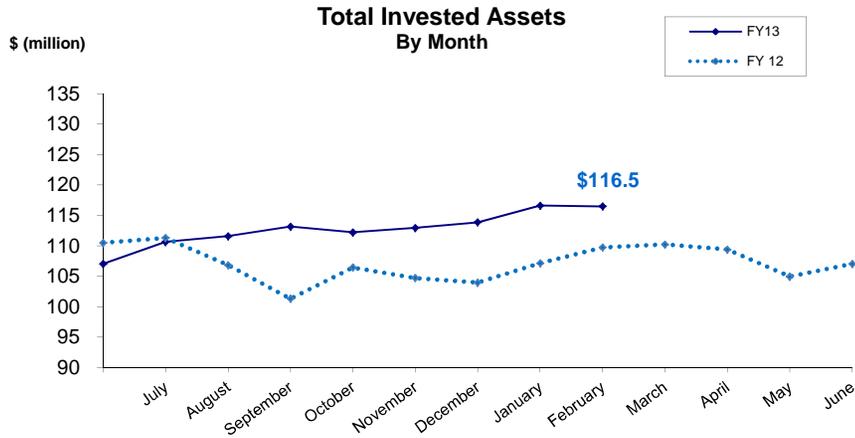
TEACHERS' RETIREE HEALTH CARE TRUST FUND

As of February 28, 2013



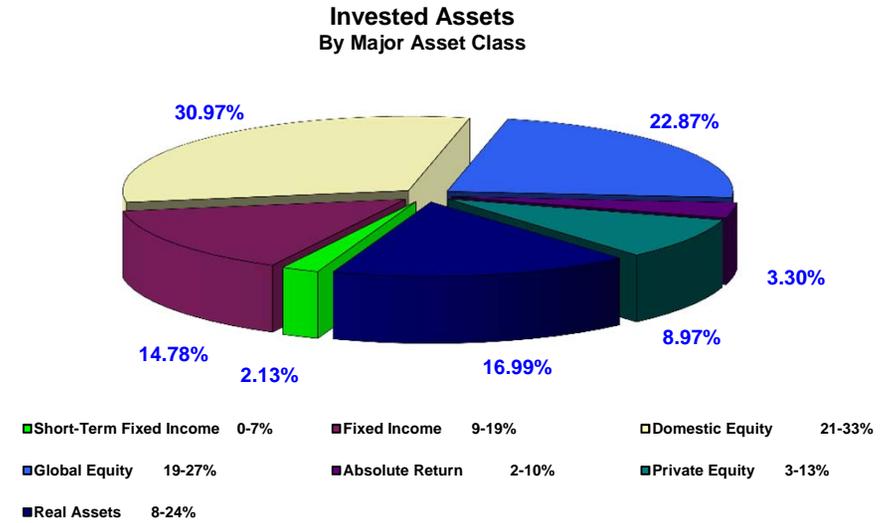
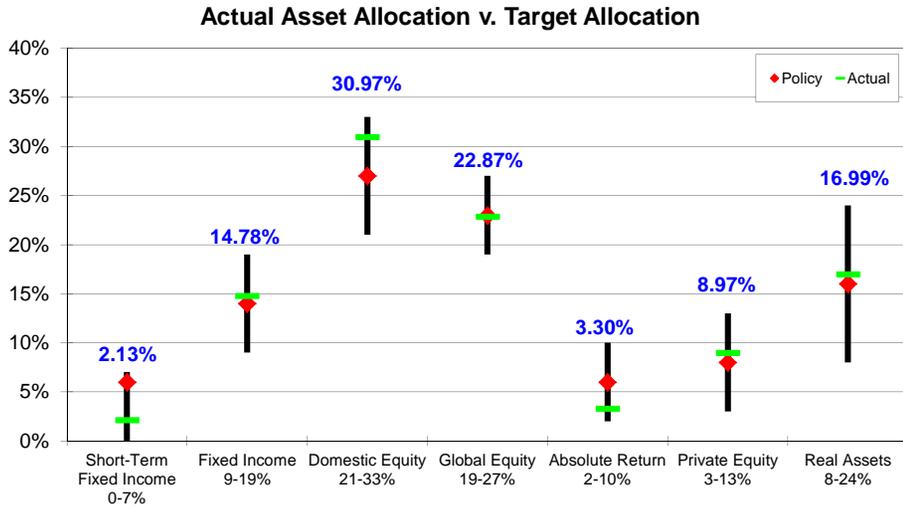
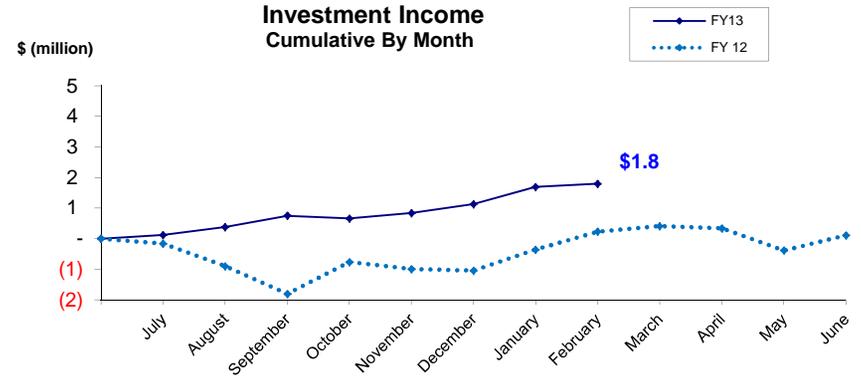
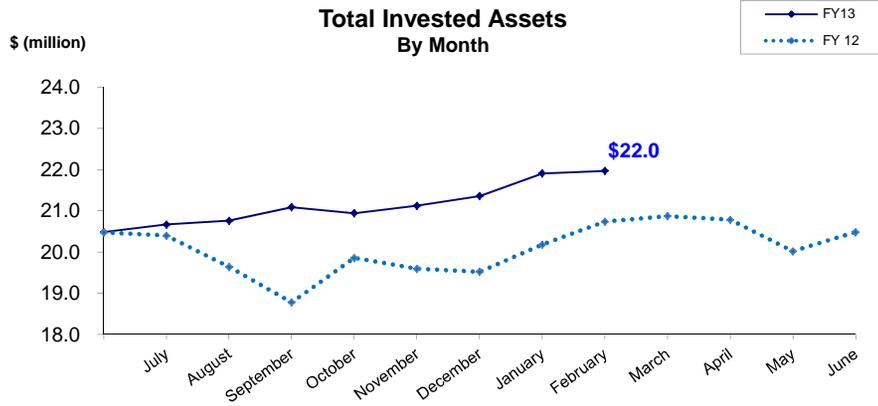
JUDICIAL RETIREMENT TRUST FUND

As of February 28, 2013



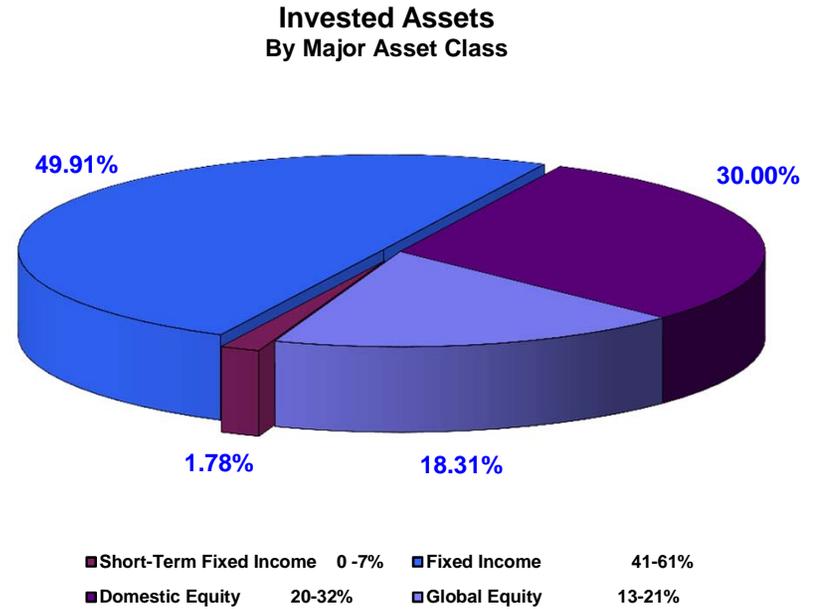
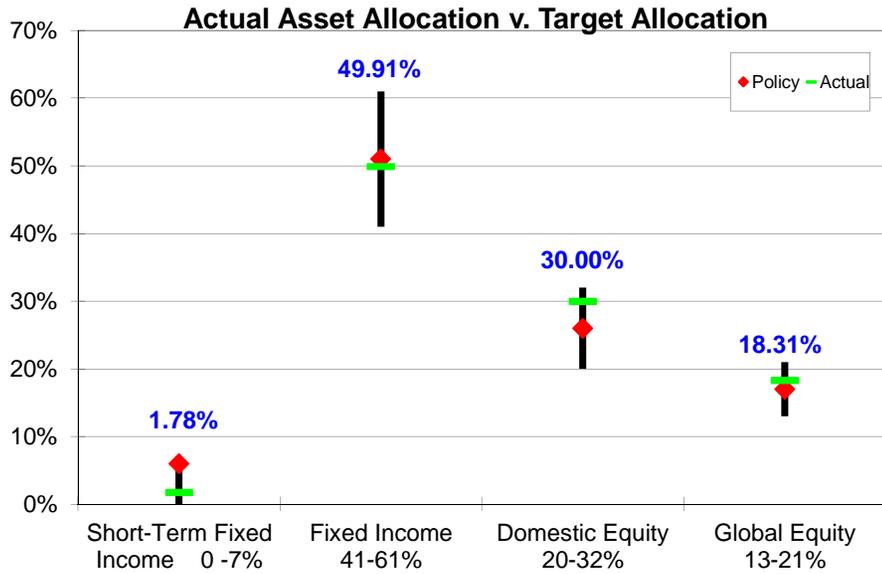
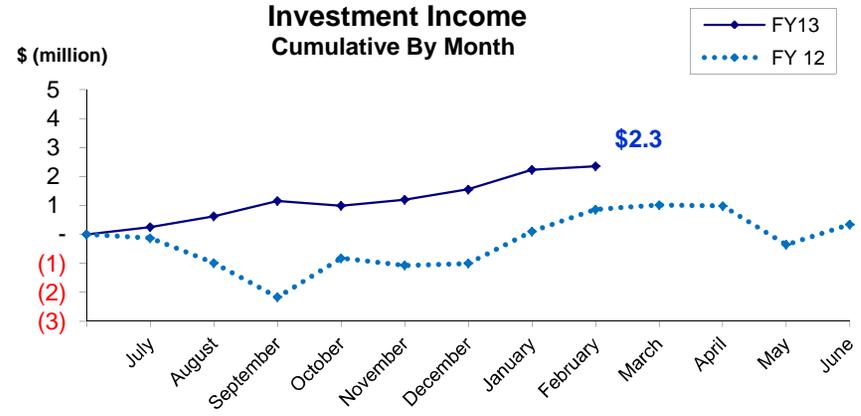
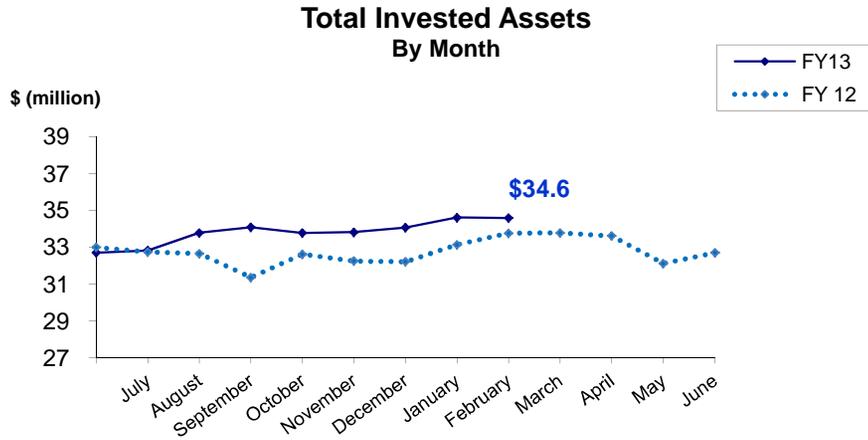
JUDICIAL RETIREE HEALTH CARE TRUST FUND

As of February 28, 2013



MILITARY RETIREMENT TRUST FUND

As of February 28, 2013



ALASKA RETIREMENT MANAGEMENT BOARD
Reporting of Funds by Manager

All Non-Participant Directed Plans

Alaska Retirement Management Board
All Non-Participant Directed Plans by Manager
Schedule of Investment Income and Changes in Invested Assets
For the Month Ended February 28, 2013

AY		Beginning Invested Assets	Total Investment Income	Net Contributions (Withdrawals) & Transfers In (Out)	Ending Invested Assets	% increase (decrease)
	Cash					
70	Short-Term Fixed Income Pool	\$ 453,711,435	\$ 83,170	\$ (131,150,070)	\$ 322,644,535	-28.89%
	Total Cash	453,711,435	83,170	(131,150,070)	322,644,535	-28.89%
	Fixed Income					
1A	US Treasury Fixed Income	1,664,797,327	7,524,231	(74,999,844)	1,597,321,714	-4.05%
77	Internal Fixed Income Investment Pool	22,372	(18,858)	(156)	3,358	-84.99%
	International Fixed Income Pool					
63	Mondrian Investment Partners	381,158,434	(3,534,386)	-	377,624,048	-0.93%
	High Yield Pool					
9P	MacKay Shields, LLC	508,365,451	2,996,455	-	511,361,906	0.59%
	Total High Yield	508,365,451	2,996,455	-	511,361,906	0.59%
	Emerging Debt Pool					
5M	Lazard Emerging Income	158,120,194	55,324	-	158,175,518	0.03%
	Total Fixed Income	2,712,463,778	7,022,766	(75,000,000)	2,644,486,544	-2.51%
	(cont.)					

Alaska Retirement Management Board
All Non-Participant Directed Plans by Manager
Schedule of Investment Income and Changes in Invested Assets
For the Month Ended February 28, 2013

	Beginning Invested Assets	Total Investment Income	Net Contributions (Withdrawals) & Transfers In (Out)	Ending Invested Assets	% increase (decrease)	
Domestic Equities						
Small Cap Pool						
Passively Managed						
4N	SSgA Russell 2000 Growth	12,869,286	138,847	-	13,008,133	1.08%
4P	SSgA Russell 2000 Value	14,008,501	165,047	-	14,173,548	1.18%
	Total Passive	<u>26,877,787</u>	<u>303,894</u>	<u>-</u>	<u>27,181,681</u>	1.13%
Actively Managed						
43	Transition Account	-	-	-	-	
4E	DePrince, Race & Zollo Inc.- Micro Cap	80,649,659	786,798	-	81,436,457	0.98%
4F	Luther King Capital Management	143,570,566	(497,901)	-	143,072,665	-0.35%
4G	Jennison Associates, LLC	145,797,152	1,749,012	-	147,546,164	1.20%
5G	Frontier Capital Mgmt Co.	135,995,103	4,876,808	-	140,871,911	3.59%
5H	Victory Capital Management	82,502,966	748,717	-	83,251,683	0.91%
6A	SSgA Futures Small Cap	7,832,830	98,686	-	7,931,516	1.26%
4H	Lord Abbett & Co.	148,151,553	(1,163,723)	-	146,987,830	-0.79%
4Q	Barrow, Haney, Mewhinney & Strauss	138,165,789	4,051,640	-	142,217,429	2.93%
4Z	Lord Abbett & Co.- Micro Cap	75,951,478	3,553,358	-	79,504,836	4.68%
	Total Active	<u>958,617,096</u>	<u>14,203,395</u>	<u>-</u>	<u>972,820,491</u>	1.48%
	Total Small Cap	<u>985,494,883</u>	<u>14,507,289</u>	<u>-</u>	<u>1,000,002,172</u>	1.47%
Large Cap Pool						
Passively Managed						
4L	SSgA Russell 1000 Growth	838,292,239	10,421,143	-	848,713,382	1.24%
4M	SSgA Russell 1000 Value	1,092,579,102	15,767,446	-	1,108,346,548	1.44%
4R	SSgA Russell 200	436,412,050	5,719,307	-	442,131,357	1.31%
	Total Passive	<u>2,367,283,391</u>	<u>31,907,896</u>	<u>-</u>	<u>2,399,191,287</u>	1.35%
Actively Managed						
47	Lazard Freres	337,227,061	2,755,565	-	339,982,626	0.82%
48	McKinley Capital Mgmt.	358,382,107	(210,035)	-	358,172,072	-0.06%
4U	Barrow, Haney, Mewhinney & Strauss	166,237,201	2,684,610	-	168,921,811	1.61%
4V	Quantitative Management Assoc.	163,352,146	2,128,944	-	165,481,090	1.30%
4W/4X	Analytic Buy Write Account	117,351,658	787,963	-	118,139,621	0.67%
4Y	RCM Buy Write Account	80,001,261	(684,412)	-	79,316,849	-0.86%
38	RCM	382,503,891	2,581,605	-	385,085,496	0.67%
5E	ARMB Equity Yield Strategy	-	1,491,883	100,000,000	101,491,883	
6B	SSgA Futures large cap	10,068,120	141,931	-	10,210,051	1.41%
4J	Relational Investors, LLC	268,899,770	5,488,728	(9,788,281)	264,600,217	-1.60%
	Total Active	<u>1,884,023,215</u>	<u>17,166,782</u>	<u>90,211,719</u>	<u>1,991,401,716</u>	5.70%
	Total Large Cap	<u>4,251,306,606</u>	<u>49,074,678</u>	<u>90,211,719</u>	<u>4,390,593,003</u>	3.28%

(cont.)

Alaska Retirement Management Board
All Non-Participant Directed Plans by Manager
Schedule of Investment Income and Changes in Invested Assets
For the Month Ended February 28, 2013

	Beginning Invested Assets	Total Investment Income	Net Contributions (Withdrawals) & Transfers In (Out)	Ending Invested Assets	% increase (decrease)	
Convertible Bond Pool						
52	Advent Capital	123,678,237	218,878	-	123,897,115	0.18%
	Total Convertible Bond Pool	123,678,237	218,878	-	123,897,115	0.18%
	Total Domestic Equity	5,360,479,726	63,800,845	90,211,719	5,514,492,290	2.87%
Global Equities Ex US						
Small Cap Pool						
5B	Mondrian Investment Partners	133,657,576	2,120,837	-	135,778,413	1.59%
5D	Schroder Investment Management	122,437,827	649,643	-	123,087,470	0.53%
	Total Small Cap	256,095,403	2,770,480	-	258,865,883	1.08%
Large Cap Pool						
65	Brandes Investment Partners	847,720,138	(23,085,472)	-	824,634,666	-2.72%
58	Lazard Freres	429,356,902	(4,575,186)	-	424,781,716	-1.07%
67	Cap Guardian Trust Co	679,849,663	(3,479,574)	-	676,370,089	-0.51%
68	State Street Global Advisors	569,759,877	(4,947,199)	-	564,812,678	-0.87%
69	McKinley Capital Management	316,553,155	3,506,364	-	320,059,519	1.11%
6U	Blackrock ACWI Ex-US IMI	349,999,063	(2,736,486)	75,000,937	422,263,514	20.65%
	Total Large Cap	3,193,238,798	(35,317,553)	75,000,937	3,232,922,182	1.24%
Emerging Markets Equity Pool A ⁽¹⁾						
6P	Lazard Asset Management	358,236,341	1,272,921	-	359,509,262	0.36%
6Q	Eaton Vance	222,979,656	(3,349,793)	-	219,629,863	-1.50%
	Total Emerging Markets Pool A	581,215,997	(2,076,872)	-	579,139,125	-0.36%
	Total Global Equities	4,030,550,198	(34,623,945)	75,000,937	4,070,927,190	1.00%
Private Equity Pool						
7Y	Warburg Pincus Prvt Eqty XI	6,657,507	-	-	6,657,507	0.00%
7Z	Merit Capital Partners	12,160,635	(1)	-	12,160,634	0.00%
98	Pathway Capital Management LLC	740,752,237	7,402,038	(5,169,514)	742,984,761	0.30%
85	Abbott Capital	716,958,822	4,712,453	(5,364,446)	716,306,829	-0.09%
8A	Blum Capital Partners-Strategic	10,937,319	-	-	10,937,319	0.00%
8P	Lexington Partners	42,016,809	-	(860,781)	41,156,028	-2.05%
8Q	Onex Partnership III	17,105,345	-	-	17,105,345	0.00%
8W	Warburg Pincus X	29,037,024	484,269	(332,820)	29,188,473	0.52%
8X	Angelo, Gordon & Co.	18,462,952	1	(1,624,120)	16,838,833	-8.80%
	Total Private Equity	1,594,088,650	12,598,760	(13,351,681)	1,593,335,729	-0.05%

(cont.)

Alaska Retirement Management Board
All Non-Participant Directed Plans by Manager
Schedule of Investment Income and Changes in Invested Assets
For the Month Ended February 28, 2013

	Beginning Invested Assets	Total Investment Income	Net Contributions (Withdrawals) & Transfers In (Out)	Ending Invested Assets	% increase (decrease)	
Absolute Return Pool ⁽²⁾						
8M	Global Asset Management (USA) Inc.	151,643,628	3,275,766	-	154,919,394	2.16%
8N	Prisma Capital Partners	154,561,410	3,787,956	-	158,349,366	2.45%
9D	Mariner Investment Group, Inc.	12,067,661	139,617	-	12,207,278	1.16%
9F	Crestline Investors, Inc.	257,882,941	3,442,751	-	261,325,692	1.34%
	Total Absolute Return Investments	576,155,640	10,646,090	-	586,801,730	1.85%
Real Assets						
Farmland Pool A						
9B	UBS Agrivest, LLC	372,911,246	3,538,419	-	376,449,665	0.95%
9G	Hancock Agricultural Investment Group	234,370,365	2,643,686	-	237,014,051	1.13%
	Total Farmland Pool A	607,281,611	6,182,105	-	613,463,716	1.02%
Farmland Water Pool						
8Y	Hancock Water PPTY	9,000,401	74,570	-	9,074,971	0.83%
8Z	UBS Argivest, LLC	19,754,500	816,849	-	20,571,349	4.13%
	Total Farmland Water Pool	28,754,901	891,419	-	29,646,320	3.10%
Timber Pool A						
9Q	Timberland INVT Resource LLC	170,060,948	1,392,614	-	171,453,562	0.82%
9S	Hancock Natural Resource Group	80,030,265	(153,774)	-	79,876,491	-0.19%
	Total Timber Pool A	250,091,213	1,238,840	-	251,330,053	0.50%
Energy Pool A						
5A	EIG Energy Fund XV	32,352,590	79,948	635,302	33,067,840	2.21%
9A	EIG Energy Fund XD	8,114,524	(11,667)	-	8,102,857	-0.14%
9Z	EIG Energy Fund XIV-A	75,256,941	(212,362)	(8,089,849)	66,954,730	-11.03%
	Total Energy Pool A	115,724,055	(144,081)	(7,454,547)	108,125,427	-6.57%
REIT Pool						
9H	REIT Holdings	200,230,011	2,171,475	-	202,401,486	1.08%
Treasury Inflation Proof Securities						
6N	TIPS Internally Managed Account	200,915,606	103,705	-	201,019,311	0.05%
Master Limited Partnerships						
1P	FAMCO	108,405,022	1,225,487	-	109,630,509	1.13%
1Q	Tortoise Capital Advisors	111,827,984	1,364,255	-	113,192,239	1.22%
	Total Master Limited Partnerships	220,233,006	2,589,742	-	222,822,748	

(cont.)

Alaska Retirement Management Board
All Non-Participant Directed Plans by Manager
Schedule of Investment Income and Changes in Invested Assets
For the Month Ended February 28, 2013

	Beginning Invested Assets	Total Investment Income	Net Contributions (Withdrawals) & Transfers In (Out)	Ending Invested Assets	% increase (decrease)	
Real Estate						
Core Commingled Accounts						
7A	JP Morgan	183,317,893	1,195,932	-	184,513,825	0.65%
7B	UBS Trumbull Property Fund	77,662,607	-	-	77,662,607	0.00%
	Total Core Commingled	<u>260,980,500</u>	<u>1,195,932</u>	<u>-</u>	<u>262,176,432</u>	<u>0.46%</u>
Core Separate Accounts						
7D	Cornerstone Real Estate Advisers Inc.	93,909,462	1,794,115	(278,450)	95,425,127	1.61%
7E	LaSalle Investment Management	208,913,505	2,634,102	(822,846)	210,724,761	0.87%
7F	Sentinel Separate Account	182,035,358	3,197,190	(706,672)	184,525,876	1.37%
7G	UBS Realty	262,913,015	3,413,567	(149,970)	266,176,612	1.24%
	Total Core Separate	<u>747,771,340</u>	<u>11,038,974</u>	<u>(1,957,938)</u>	<u>756,852,376</u>	<u>1.21%</u>
Non-Core Commingled Accounts						
7H	Coventry	17,445,725	-	-	17,445,725	0.00%
7J	Lowe Hospitality Partners	6,694,505	-	-	6,694,505	0.00%
7N	ING Clarion Development Ventures II	5,684,438	(8)	(3,646)	5,680,784	-0.06%
7P	Silverpeak Legacy Pension Partners II, L.P. ⁽³⁾	66,188,616	-	-	66,188,616	0.00%
7Q	Almanac Realty Securities IV ⁽⁵⁾	39,417,041	-	-	39,417,041	0.00%
7R	Tishman Speyer Real Estate Venture VI	66,670,066	-	-	66,670,066	0.00%
7X	Tishman Speyer Real Estate Venture VII	19,368,820	-	-	19,368,820	0.00%
7S	Almanac Realty Securities V ⁽⁶⁾	27,464,235	(9)	71,496	27,535,722	0.26%
7V	ING Clarion Development Ventures III	25,293,795	(6)	(16,814)	25,276,975	-0.07%
7W	Silverpeak Legacy Pension Partners III, L.P. ⁽⁴⁾	9,184,313	-	-	9,184,313	0.00%
8R	BlackRock Diamond Property Fund	26,283,463	-	-	26,283,463	0.00%
8S	Colony Investors VIII, L.P.	21,224,032	-	-	21,224,032	0.00%
8U	LaSalle Medical Office Fund II	21,991,714	5	(4,216,962)	17,774,757	-19.18%
8V	Cornerstone Apartment Venture III	25,153,079	-	-	25,153,079	0.00%
	Total Non-Core Commingled	<u>378,063,842</u>	<u>(18)</u>	<u>(4,165,926)</u>	<u>373,897,898</u>	<u>-1.10%</u>
	Total Real Estate	<u>1,386,815,682</u>	<u>12,234,888</u>	<u>(6,123,864)</u>	<u>1,392,926,706</u>	<u>0.44%</u>
	Total Real Assets	<u>3,010,046,085</u>	<u>25,268,093</u>	<u>(13,578,411)</u>	<u>3,021,735,767</u>	<u>0.39%</u>
	Totals	<u>\$ 17,737,495,512</u>	<u>\$ 84,795,779</u>	<u>\$ (67,867,506)</u>	<u>\$ 17,754,423,785</u>	<u>0.10%</u>

Notes

- (1) Investment is represented by shares in (or as a percentage of) commingled equity investments which, at any given time, may be a combination of securities and cash.
- (2) Investment is represented by shares in various hedge funds.
- (3) Previously titled Lehman Brothers Real Estate Partners II
- (4) Previously titled Lehman Brothers Real Estate Partners III
- (5) Previously titled Rothschild Five Arrows Realty Securities V
- (6) Previously titled Rothschild Five Arrows Realty Securities IV

ALASKA RETIREMENT MANAGEMENT BOARD

Participant Directed Plans

Supplemental Annuity Plan
Schedule of Investment Income and Changes in Invested Assets
for the Month Ended
January 31, 2013

Interim Transit Account	Beginning Invested Assets	Investment Income	Net Contributions (Withdrawals)	Transfers In (Out)	Ending Invested Assets	% Change in Invested Assets	% Change due to Investment Income (3)
Treasury Division ⁽¹⁾							
Cash and Cash Equivalents	\$ 6,434,633	\$ 724	\$ 110,357	\$ -	\$ 6,545,714	1.73%	0.01%
Participant Options ⁽²⁾							
T. Rowe Price							
Stable Value Fund	325,795,231	610,878	(2,258,793)	10,225,228	334,372,544	2.63%	0.19%
Small-Cap Stock Fund	100,129,605	2,233,557	381,901	(1,659,418)	101,085,645	0.95%	2.24%
Alaska Balanced Fund	1,134,182,563	6,866,489	(2,113,745)	(1,482,906)	1,137,452,401	0.29%	0.61%
Long Term Balanced Fund	408,903,083	2,788,199	1,354,029	(497,925)	412,547,386	0.89%	0.68%
AK Target Date 2010 Trust	6,674,492	39,220	30,064	(70,106)	6,673,670	-0.01%	0.59%
AK Target Date 2015 Trust	93,396,666	603,719	245,127	852,468	95,097,980	1.82%	0.64%
AK Target Date 2020 Trust	41,752,519	289,296	280,506	524,703	42,847,024	2.62%	0.69%
AK Target Date 2025 Trust	25,187,733	181,543	157,173	(427,536)	25,098,913	-0.35%	0.72%
AK Target Date 2030 Trust	11,386,074	85,954	191,071	114,218	11,777,317	3.44%	0.74%
AK Target Date 2035 Trust	10,800,474	84,497	199,555	358,737	11,443,263	5.95%	0.76%
AK Target Date 2040 Trust	11,232,080	88,347	258,742	116,388	11,695,557	4.13%	0.77%
AK Target Date 2045 Trust	11,720,027	92,792	332,667	(69,871)	12,075,615	3.03%	0.78%
AK Target Date 2050 Trust	11,808,219	94,090	310,234	(71,859)	12,140,684	2.82%	0.79%
AK Target Date 2055 Trust	6,677,541	46,315	130,055	(242,199)	6,611,712	-0.99%	0.70%
Total Investments with T. Rowe Price	<u>2,199,646,307</u>	<u>14,104,896</u>	<u>(501,414)</u>	<u>7,669,922</u>	<u>2,220,919,711</u>		
State Street Global Advisors							
State Street Treasury Money Market Fund - Inst.	37,637,846	1	(494,480)	802,209	37,945,576	0.82%	0.00%
S&P 500 Stock Index Fund Series A	256,174,439	3,479,569	82,881	(4,207,759)	255,529,130	-0.25%	1.37%
Russell 3000 Index	23,861,767	323,692	99,271	98,066	24,382,796	2.18%	1.35%
US Real Estate Investment Trust Index	35,439,621	307,872	(1,892)	(1,445,336)	34,300,265	-3.21%	0.89%
World Equity Ex-US Index	20,962,710	(218,830)	114,847	930,205	21,788,932	3.94%	-1.02%
Long US Treasury Bond Index	17,022,101	168,564	61,875	(2,016,176)	15,236,364	-10.49%	1.05%
US Treasury Inflation Protected Securities Index	24,601,163	6,334	37,176	(268,832)	24,375,841	-0.92%	0.03%
World Government Bond Ex-US Index	6,357,956	(121,951)	(17,771)	528,849	6,747,083	6.12%	-1.84%
Global Balanced Fund	54,179,731	(19,739)	37,873	(62,474)	54,135,391	-0.08%	-0.04%
Total Investments with SSGA	<u>476,237,334</u>	<u>3,925,512</u>	<u>(80,220)</u>	<u>(5,641,248)</u>	<u>474,441,378</u>		
BlackRock							
Government Bond Fund	50,792,988	289,203	50,448	(785,213)	50,347,426	-0.88%	0.57%
Intermediate Bond Fund	15,538,535	60,861	(65,644)	1,093,674	16,627,426	7.01%	0.38%
Total Investments with BlackRock	<u>66,331,523</u>	<u>350,064</u>	<u>(15,196)</u>	<u>308,461</u>	<u>66,974,852</u>		
Brandes Institutional							
International Equity Fund Fee	63,200,717	(1,974,776)	189,689	(2,054,868)	59,360,762	-6.08%	-3.17%
RCM							
Sustainable Opportunities Fund	29,804,906	440,629	(29,085)	(282,267)	29,934,183	0.43%	1.49%
Total Externally Managed Funds	<u>2,835,220,787</u>	<u>16,846,325</u>	<u>(436,226)</u>	<u>-</u>	<u>2,851,630,886</u>		
Total All Funds	<u>\$ 2,841,655,420</u>	<u>\$ 16,847,049</u>	<u>\$ (325,869)</u>	<u>\$ -</u>	<u>\$ 2,858,176,600</u>	0.58%	0.59%

Notes: (1) Represents net contributions in transit to/from the record keeper. (2) Source data provided by the record keeper, Great West Life.

(3) Income divided by beginning assets plus half of net contributions/(withdrawals). Actual returns are calculated by Callan and Associates and can be found at: <http://www.revenue.state.ak.us/treasury/programs/programs/other/amb/investmentresults.aspx>

Supplemental Annuity Plan
Schedule of Invested Assets with
Schedule of Investment Income and Changes in Invested Assets
By Month Through the Month Ended
January 31, 2013
\$ (Thousands)

<u>Invested Assets (At Fair Value)</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>	<u>January</u>	<u>February</u>
Investments with Treasury Division								
Cash and cash equivalents	\$ 5,603	\$ 2,468	\$ 7,824	\$ 7,484	\$ 6,134	\$ 5,460	\$ 6,435	\$ 6,546
Investments with T. Rowe Price								
Stable Value Fund	326,006	325,005	325,378	324,563	324,716	333,517	325,795	334,373
Small-Cap Stock Fund	87,043	90,590	93,235	93,340	93,578	93,655	100,130	101,086
Alaska Balanced Fund	1,106,437	1,115,765	1,126,596	1,117,241	1,118,848	1,119,855	1,134,183	1,137,452
Long Term Balanced Fund	364,538	374,612	381,984	382,020	387,609	392,911	408,903	412,547
AK Target Date 2010 Trust	5,659	5,871	5,963	6,282	6,480	6,509	6,674	6,674
AK Target Date 2015 Trust	87,366	88,482	90,247	89,370	90,553	90,873	93,397	95,098
AK Target Date 2020 Trust	37,937	38,854	39,786	39,063	39,768	39,860	41,752	42,847
AK Target Date 2025 Trust	20,564	21,316	21,949	21,991	22,430	23,587	25,188	25,099
AK Target Date 2030 Trust	8,543	9,384	9,572	9,852	9,990	10,384	11,386	11,777
AK Target Date 2035 Trust	7,861	8,348	8,759	9,136	9,484	9,803	10,800	11,443
AK Target Date 2040 Trust	7,841	8,519	8,890	9,357	9,715	10,158	11,232	11,696
AK Target Date 2045 Trust	7,784	8,599	9,173	9,474	9,852	10,519	11,720	12,076
AK Target Date 2050 Trust	8,039	8,818	9,234	9,530	10,092	10,693	11,808	12,141
AK Target Date 2055 Trust	4,064	5,137	5,617	5,528	5,809	6,151	6,677	6,612
Investments with State Street Global Advisors								
State Street Treasury Money Market Fund - Inst.	37,162	36,772	37,329	36,292	37,779	38,983	37,638	37,946
S&P 500 Stock Index Fund Series A	235,676	240,696	245,455	244,525	247,594	245,893	256,174	255,529
Russell 3000 Index	17,468	18,438	18,459	18,713	19,034	20,332	23,862	24,383
US Real Estate Investment Trust Index	35,011	34,755	35,941	34,179	32,090	33,457	35,440	34,300
World Equity Ex-US Index	12,961	13,852	14,652	15,585	15,959	18,438	20,963	21,789
Long US Treasury Bond Index	26,693	26,056	22,102	19,655	19,882	18,182	17,022	15,236
US Treasury Inflation Protected Securities Index	22,194	22,038	22,740	23,313	24,255	24,541	24,601	24,376
World Govt Bond Ex-US Index	6,058	6,160	6,175	6,269	6,572	6,180	6,358	6,747
Global Balanced Fund	49,376	50,626	51,948	51,870	52,246	52,790	54,180	54,135
Investments with BlackRock								
Government Bond Fund	50,680	50,983	50,397	51,084	51,423	51,657	50,793	50,347
Intermediate Bond Fund	14,852	14,511	14,461	14,467	15,157	15,227	15,538	16,627
Investments with Brandes Investment Partners								
International Equity Fund Fee	59,070	61,181	61,389	60,678	60,352	61,219	63,201	59,361
Investments with RCM								
Sustainable Opportunities Fund	28,526	29,265	29,114	27,738	28,147	28,188	29,805	29,934
Total Invested Assets	\$ 2,681,012	\$ 2,717,101	\$ 2,754,369	\$ 2,738,601	\$ 2,755,549	\$ 2,779,024	\$ 2,841,655	\$ 2,858,177
<u>Change in Invested Assets</u>								
Beginning Assets	\$ 2,656,000	\$ 2,681,012	\$ 2,717,101	\$ 2,754,369	\$ 2,738,601	\$ 2,755,549	\$ 2,779,024	\$ 2,841,655
Investment Earnings	23,717	35,162	35,514	(16,264)	16,508	24,017	64,499	16,847
Net Contributions (Withdrawals)	1,295	927	1,754	496	440	(542)	(1,868)	(327)
Ending Invested Assets	\$ 2,681,012	\$ 2,717,101	\$ 2,754,369	\$ 2,738,601	\$ 2,755,549	\$ 2,779,024	\$ 2,841,655	\$ 2,858,177

Deferred Compensation Plan
Schedule of Invested Assets and Changes in Invested Assets
for the Month Ended
February 28, 2013

	<u>Beginning Invested Assets</u>	<u>Investment Income</u>	<u>Net Contributions (Withdrawals)</u>	<u>Transfers In (Out)</u>	<u>Ending Invested Assets</u>	<u>% Change in Invested Assets</u>	<u>% Change due to Investment Income (3)</u>
Participant Options							
T. Rowe Price							
Interest Income Fund	\$ 176,498,063	\$ 377,909	\$ (574,634)	\$ 3,549,282	\$ 179,850,620	1.90%	0.21%
Small Cap Stock Fund	77,682,060	1,739,335	(324,449)	(1,198,284)	77,898,662	0.28%	2.26%
Long Term Balanced Fund	40,557,000	272,638	30,036	(394,110)	40,465,564	-0.23%	0.68%
Alaska Balanced Trust	11,099,059	65,756	54,403	(226,019)	10,993,199	-0.95%	0.60%
AK Target Date 2010 Trust	2,148,209	12,245	1,931	(90,656)	2,071,729	-3.56%	0.58%
AK Target Date 2015 Trust	5,599,169	35,647	(82,435)	139,451	5,691,832	1.65%	0.63%
AK Target Date 2020 Trust	6,047,659	41,725	49,875	241,204	6,380,463	5.50%	0.67%
AK Target Date 2025 Trust	2,884,068	20,181	24,089	248,575	3,176,913	10.15%	0.67%
AK Target Date 2030 Trust	2,101,558	15,066	23,047	(6,272)	2,133,399	1.52%	0.71%
AK Target Date 2035 Trust	1,435,486	10,936	16,660	78,039	1,541,121	7.36%	0.74%
AK Target Date 2040 Trust	1,062,641	8,809	24,280	89,812	1,185,542	11.57%	0.79%
AK Target Date 2045 Trust	794,596	6,431	14,488	(37,202)	778,313	-2.05%	0.82%
AK Target Date 2050 Trust	441,156	3,369	9,610	478	454,613	3.05%	0.76%
AK Target Date 2055 Trust	537,235	3,661	6,874	12,396	560,166	4.27%	0.67%
Total Investments with T. Rowe Price	<u>328,887,959</u>	<u>2,613,708</u>	<u>(726,225)</u>	<u>2,406,694</u>	<u>333,182,136</u>		
State Street Global Advisors							
State Street Treasury Money Market Fund - Inst.	10,420,806	-	(156,792)	807,720	11,071,734	6.25%	0.00%
Russell 3000 Index	8,146,431	108,084	(40,299)	107,675	8,321,891	2.15%	1.32%
US Real Estate Investment Trust Index	11,980,385	100,185	(40,247)	(93,737)	11,946,586	-0.28%	0.84%
World Equity Ex-US Index	7,132,924	(74,417)	35,274	242,873	7,336,654	2.86%	-1.02%
Long US Treasury Bond Index	4,787,188	52,582	17,446	(346,533)	4,510,683	-5.78%	1.14%
US Treasury Inflation Protected Securities Index	12,018,195	1,769	(50,879)	(2,236)	11,966,849	-0.43%	0.01%
World Government Bond Ex-US Index	2,341,510	(45,041)	132	205,690	2,502,291	6.87%	-1.84%
Global Balanced Fund	38,963,403	(14,417)	13,617	(109,788)	38,852,815	-0.28%	-0.04%
Total Investments with SSGA	<u>95,790,842</u>	<u>128,745</u>	<u>(221,748)</u>	<u>811,664</u>	<u>96,509,503</u>		
BlackRock							
S&P 500 Index Fund	137,780,769	1,866,970	(582,554)	(1,640,962)	137,424,223	-0.26%	1.37%
Government/Credit Bond Fund	33,329,139	187,721	(214,489)	(501,779)	32,800,592	-1.59%	0.57%
Intermediate Bond Fund	16,407,560	63,785	(72,712)	(248,431)	16,150,202	-1.57%	0.39%
Total Investments with Barclays Global Investors	<u>187,517,468</u>	<u>2,118,476</u>	<u>(869,755)</u>	<u>(2,391,172)</u>	<u>186,375,017</u>		
Brandes Institutional							
International Equity Fund Fee	38,795,109	(1,223,114)	(186,663)	(611,361)	36,773,971	-5.21%	-3.19%
RCM							
Sustainable Core Opportunities Fund	11,937,166	175,304	14,243	(215,825)	11,910,888	-0.22%	1.48%
Total All Funds	<u>\$ 662,928,544</u>	<u>\$ 3,813,119</u>	<u>\$ (1,990,148)</u>	<u>\$ -</u>	<u>\$ 664,751,515</u>	0.27%	0.58%

Notes: (1) Represents net contributions in transit to/from the record keeper. (2) Source data provided by the record keeper, Great West Life.

(3) Income divided by beginning assets plus half of net contributions/(withdrawals). Actual returns are calculated by Callan and Associates and can be found at: <http://www.revenue.state.ak.us/treasury/programs/programs/other/armb/investmentresults.aspx>

Deferred Compensation Plan
Schedule of Invested Assets with
Schedule of Investment Income and Changes in Invested Assets
By Month Through the Month Ended
February 28, 2013
\$ (Thousands)

Invested Assets (at fair value)	July	August	September	October	November	December	January	February
Investments with T. Rowe Price								
Interest Income Fund								
Cash and cash equivalents	\$ 13,002	\$ 11,754	\$ 10,372	\$ 9,848	\$ 9,780	\$ 10,944	\$ 8,818	\$ 12,097
Synthetic Investment Contracts	164,611	164,424	165,758	166,460	166,551	166,734	167,680	167,752
Small Cap Stock Fund	68,583	71,208	71,952	71,176	71,916	73,142	77,682	77,899
Long Term Balanced Fund	35,553	36,717	37,429	37,325	37,898	38,720	40,557	40,466
Alaska Balanced Trust	8,884	9,253	9,341	9,447	9,965	10,500	11,099	10,993
AK Target Date 2010 Trust	1,829	1,761	1,785	1,953	2,003	2,086	2,148	2,072
AK Target Date 2015 Trust	4,489	4,805	5,086	5,170	5,343	5,356	5,599	5,692
AK Target Date 2020 Trust	4,475	4,874	5,100	5,128	5,370	5,440	6,048	6,380
AK Target Date 2025 Trust	2,153	2,289	2,281	2,382	2,534	2,642	2,884	3,177
AK Target Date 2030 Trust	1,418	1,493	1,540	1,629	1,755	1,828	2,102	2,133
AK Target Date 2035 Trust	1,155	1,199	1,127	1,178	1,251	1,330	1,436	1,541
AK Target Date 2040 Trust	714	779	900	849	865	917	1,063	1,186
AK Target Date 2045 Trust	406	414	446	611	647	689	795	778
AK Target Date 2050 Trust	272	289	318	341	358	376	441	455
AK Target Date 2055 Trust	474	614	590	522	532	443	537	560
State Street Global Advisors								
State Street Treasury Money Market Fund - Inst.	9,166	9,180	9,378	8,791	8,541	9,757	10,421	11,072
Russell 3000 Index	6,615	7,179	7,034	7,175	7,214	7,437	8,146	8,322
US Real Estate Investment Trust Index	11,944	11,629	12,375	11,142	10,758	11,073	11,980	11,947
World Equity Ex-US Index	4,491	4,836	5,042	5,419	5,595	6,341	7,133	7,337
Long US Treasury Bond Index	6,397	6,507	6,147	6,282	6,597	5,491	4,787	4,511
US Treasury Inflation Protected Securities Index	11,326	11,299	11,515	11,716	11,904	12,178	12,018	11,967
World Government Bond Ex-US Index	2,144	2,159	2,250	2,259	2,353	2,263	2,342	2,502
Global Balanced Fund	36,799	37,513	38,458	38,196	38,122	38,354	38,963	38,853
Investments with BlackRock								
S&P 500 Index Fund	127,174	129,612	131,039	130,568	131,647	131,068	137,781	137,424
Government/Credit Bond Fund	33,320	33,301	33,485	33,672	33,741	33,946	33,329	32,801
Intermediate Bond Fund	16,352	16,501	16,394	16,419	16,491	16,547	16,408	16,150
Investments with Brandes Institutional								
International Equity Fund Fee	34,990	35,910	36,217	35,953	35,949	37,072	38,795	36,774
Investments with RCM								
Sustainable Opportunities Fund	10,796	11,037	11,105	10,767	10,931	11,087	11,937	11,911
Total Invested Assets	\$ 619,532	\$ 628,536	\$ 634,464	\$ 632,377	\$ 635,711	\$ 643,763	\$ 662,929	\$ 664,752
Change in Invested Assets								
Beginning Assets	\$ 614,418	\$ 619,532	\$ 628,536	\$ 634,464	\$ 632,377	\$ 635,711	\$ 643,763	\$ 662,929
Investment Earnings	3,798	9,053	8,545	(4,575)	3,743	7,238	17,511	3,813
Net Contributions (Withdrawals)	1,316	(49)	(2,617)	2,488	(409)	814	1,654	(1,990)
Ending Invested Assets	\$ 619,532	\$ 628,536	\$ 634,464	\$ 632,377	\$ 635,711	\$ 643,763	\$ 662,929	\$ 664,752

Defined Contribution Retirement - Participant Directed PERS
Schedule of Investment Income and Changes in Invested Assets
for the Month Ended
February 28, 2013

	Beginning Invested Assets	Investment Income	Net Contributions (Withdrawals)	Transfers In (Out)	Ending Invested Assets	% Change in Invested Assets	% Change due to Investment Income (3)
Interim Transit Account							
Treasury Division ⁽¹⁾							
Cash and Cash Equivalents	\$ 6,565,301	\$ 1,429	\$ 152,718	\$ -	\$ 6,719,448	2.35%	0.02%
Participant Options ⁽²⁾							
T. Rowe Price							
Alaska Money Market	3,489,539	216	63,299	389,893	3,942,947	12.99%	0.01%
Small-Cap Stock Fund	41,017,634	908,916	416,635	(2,614,906)	39,728,279	-3.14%	2.28%
Long Term Balanced Fund	7,937,451	59,898	97,189	1,897,043	9,991,581	25.88%	0.67%
Alaska Balanced Fund	1,022,963	6,329	32,192	(4,072)	1,057,412	3.37%	0.61%
AK Target Date 2010 Trust	914,846	5,508	36,738	(6,234)	950,858	3.94%	0.59%
AK Target Date 2015 Trust	3,619,200	23,752	134,099	(2,000)	3,775,051	4.31%	0.64%
AK Target Date 2020 Trust	6,877,069	48,209	278,200	26,345	7,229,823	5.13%	0.69%
AK Target Date 2025 Trust	9,721,207	70,601	316,990	(30,889)	10,077,909	3.67%	0.72%
AK Target Date 2030 Trust	9,745,940	73,503	350,291	(6,178)	10,163,556	4.29%	0.74%
AK Target Date 2035 Trust	10,660,739	82,256	401,460	(6,679)	11,137,776	4.47%	0.76%
AK Target Date 2040 Trust	14,609,323	113,877	431,816	(80,630)	15,074,386	3.18%	0.77%
AK Target Date 2045 Trust	16,633,557	129,669	615,492	(18,435)	17,360,283	4.37%	0.77%
AK Target Date 2050 Trust	18,478,164	144,636	655,281	(30,074)	19,248,007	4.17%	0.77%
AK Target Date 2055 Trust	7,236,008	56,539	331,709	13,755	7,638,011	5.56%	0.76%
Total Investments with T. Rowe Price	151,963,640	1,723,909	4,161,391	(473,061)	157,375,879		
State Street Global Advisors							
Money Market	844,502	-	7,830	94,754	947,086	12.15%	0.00%
S&P 500 Stock Index Fund Series A	38,199,540	512,697	414,768	(2,799,085)	36,327,920	-4.90%	1.39%
Russell 3000 Index	9,282,016	132,581	112,086	2,444,088	11,970,771	28.97%	1.26%
US Real Estate Investment Trust Index	5,496,653	44,995	(7,675)	(195,509)	5,338,464	-2.88%	0.83%
World Equity Ex-US Index	22,101,874	(235,755)	239,011	1,063,006	23,168,136	4.82%	-1.04%
Long US Treasury Bond Index	499,965	5,930	9,077	(47,844)	467,128	-6.57%	1.23%
US Treasury Inflation Protected Sec Index	1,579,120	1,194	21,319	413,217	2,014,850	27.59%	0.07%
World Government Bond Ex-US Index	2,207,145	(43,429)	21,234	611,131	2,796,081	26.68%	-1.72%
Global Balanced Fund	7,112,513	(1,824)	68,784	393,114	7,572,587	6.47%	-0.02%
Total Investments with SSGA	87,323,328	416,389	886,434	1,976,872	90,603,023		
BlackRock							
Government Bond Fund	12,834,004	82,056	145,997	1,835,958	14,898,015	16.08%	0.59%
Intermediate Bond Fund	350,982	1,362	7,634	(15,283)	344,695	-1.79%	0.39%
Total Investments with BlackRock	13,184,986	83,418	153,631	1,820,675	15,242,710		
Brandes Institutional							
International Equity Fund Fee	37,291,039	(1,147,775)	394,976	(2,821,936)	33,716,304	-9.59%	-3.18%
RCM							
Sustainable Opportunities Fund	6,208,090	90,082	64,546	(502,550)	5,860,168	-5.60%	1.50%
Total Externally Managed Funds	295,971,083	1,166,023	5,660,978	-	302,798,084		
Total All Funds	\$ 302,536,384	\$ 1,167,452	\$ 5,813,696	\$ -	\$ 309,517,532	2.31%	0.38%

Notes: (1) Represents net contributions in transit to/from the record keeper. (2) Source data provided by the record keeper, Great West Life.

(3) Income divided by beginning assets plus half of net contributions/(withdrawals). Actual returns are calculated by Callan and Associates and can be found at: <http://www.revenue.state.ak.us/treasury/programs/programs/other/armb/investmentresults.aspx>

Defined Contribution Retirement - Participant Directed PERS
Schedule of Invested Assets with
Schedule of Investment Income and Changes in Invested Assets
By Month Through the Month Ended
February 28, 2013
\$ (Thousands)

<u>Invested Assets (At Fair Value)</u>	<u>July</u>	<u>August</u>	<u>September</u>	<u>October</u>	<u>November</u>	<u>December</u>	<u>January</u>	<u>February</u>
Investments with Treasury Division								
Cash and cash equivalents	\$ 7,044	\$ 7,083	\$ 7,266	\$ 7,170	\$ 6,883	\$ 6,719	\$ 6,565	\$ 6,719
Investments with T. Rowe Price								
Alaska Money Market	2,837	2,915	2,923	2,947	2,985	3,190	3,490	3,943
Small-Cap Stock Fund	35,862	37,861	38,924	38,827	39,745	40,299	41,018	39,728
Long Term Balanced Fund	4,530	4,643	4,811	4,803	4,953	5,976	7,937	9,992
Alaska Balanced Fund	692	733	776	859	903	983	1,023	1,057
AK Target Date 2010 Trust	670	703	740	776	821	857	915	951
AK Target Date 2015 Trust	2,703	2,862	2,992	3,095	3,205	3,369	3,619	3,775
AK Target Date 2020 Trust	5,001	5,300	5,540	5,761	6,054	6,371	6,877	7,230
AK Target Date 2025 Trust	6,857	7,381	7,764	8,073	8,504	8,985	9,721	10,078
AK Target Date 2030 Trust	6,955	7,437	7,766	8,030	8,472	8,993	9,746	10,164
AK Target Date 2035 Trust	7,477	8,061	8,451	8,724	9,210	9,750	10,661	11,138
AK Target Date 2040 Trust	10,594	11,431	11,958	12,261	12,802	13,478	14,609	15,074
AK Target Date 2045 Trust	11,567	12,582	13,180	13,676	14,330	15,287	16,634	17,360
AK Target Date 2050 Trust	12,904	13,946	14,668	15,210	16,026	16,992	18,478	19,248
AK Target Date 2055 Trust	4,667	5,180	5,474	5,768	6,163	6,613	7,236	7,638
Investments with State Street Global Advisors								
Money Market	590	649	887	882	961	875	845	947
S&P 500 Stock Index Fund Series A	29,959	33,231	36,327	38,256	38,976	38,312	38,200	36,328
Russell 3000 Index	4,171	4,147	4,003	3,824	3,892	6,319	9,282	11,971
US Real Estate Investment Trust Index	4,745	4,911	4,989	5,084	5,109	5,312	5,497	5,339
World Equity Ex-US Index	10,106	12,803	15,510	17,922	18,297	20,266	22,102	23,168
Long US Treasury Bond Index	720	518	494	538	602	564	500	467
US Treasury Inflation Protected Sec Index	1,046	1,085	1,216	1,165	1,251	1,317	1,579	2,015
World Government Bond Ex-US Index	1,449	1,516	1,593	1,614	1,653	1,729	2,207	2,796
Global Balanced Fund	5,280	5,547	5,921	6,060	6,241	6,417	7,113	7,573
Investments with BlackRock								
Government Bond Fund	10,162	10,453	10,825	11,140	11,344	11,579	12,834	14,898
Intermediate Bond Fund	328	338	319	321	328	344	351	345
Investments with Brandes Investment Partners								
International Equity Fund Fee	41,282	40,696	39,252	37,207	37,718	38,024	37,291	33,716
Investments with RCM								
Sustainable Opportunities Fund	11,830	10,130	8,354	6,163	6,339	6,316	6,208	5,860
Total Invested Assets	\$ 242,028	\$ 254,142	\$ 262,923	\$ 266,157	\$ 273,768	\$ 285,236	\$ 302,536	\$ 309,518
Change in Invested Assets								
Beginning Assets	\$ 236,966	\$ 242,028	\$ 254,142	\$ 262,923	\$ 266,157	\$ 273,768	\$ 285,236	\$ 302,536
Investment Earnings	855	5,831	5,379	(2,686)	2,366	5,720	12,092	1,167
Net Contributions (Withdrawals)	4,207	6,283	3,402	5,920	5,244	5,748	5,208	5,814
Ending Invested Assets	\$ 242,028	\$ 254,142	\$ 262,923	\$ 266,157	\$ 273,768	\$ 285,236	\$ 302,536	\$ 309,518

Defined Contribution Retirement - Participant Directed TRS
Schedule of Investment Income and Changes in Invested Assets
for the Month Ended
February 28, 2013

Interim Transit Account	Beginning Invested Assets	Investment Income	Net Contributions (Withdrawals)	Transfers In (Out)	Ending Invested Assets	% Change in Invested Assets	% Change due to Investment Income (3)
Treasury Division ⁽¹⁾							
Cash and Cash Equivalents	\$ 2,690,802	\$ 520	\$ (124,881)	\$ -	\$ 2,566,441	-4.62%	0.02%
Participant Options ⁽²⁾							
T. Rowe Price							
Alaska Money Market	1,517,876	91	(28,056)	141,286	1,631,197	7.47%	0.01%
Small-Cap Stock Fund	16,963,149	373,289	170,568	(1,162,681)	16,344,325	-3.65%	2.27%
Long Term Balanced Fund	4,632,675	35,931	49,196	1,248,349	5,966,151	28.78%	0.68%
Alaska Balanced Fund	229,810	1,425	7,652	-	238,887	3.95%	0.61%
AK Target Date 2010 Trust	1,739,534	1,739	8,562	-	297,835	3.58%	0.60%
AK Target Date 2015 Trust	1,207,684	7,879	32,537	-	1,248,100	3.35%	0.64%
AK Target Date 2020 Trust	2,391,494	16,653	80,271	-	2,488,418	4.05%	0.68%
AK Target Date 2025 Trust	3,075,488	22,121	102,751	-	3,200,360	4.06%	0.71%
AK Target Date 2030 Trust	3,235,156	24,624	129,523	(21,016)	3,368,287	4.12%	0.75%
AK Target Date 2035 Trust	5,181,548	40,113	203,945	(3,918)	5,421,688	4.63%	0.76%
AK Target Date 2040 Trust	5,651,335	44,066	176,878	-	5,872,279	3.91%	0.77%
AK Target Date 2045 Trust	10,365,270	80,736	341,972	(24,190)	10,763,788	3.84%	0.77%
AK Target Date 2050 Trust	13,539,440	105,974	428,737	(2,064)	14,072,087	3.93%	0.77%
AK Target Date 2055 Trust	1,410,086	11,091	100,360	-	1,521,537	7.90%	0.76%
Total Investments with T. Rowe Price	<u>69,688,545</u>	<u>765,732</u>	<u>1,804,896</u>	<u>175,766</u>	<u>72,434,939</u>		
State Street Global Advisors							
Money Market	30,656	-	774	47,878	79,308	158.70%	0.00%
S&P 500 Stock Index Fund Series A	15,324,065	203,240	152,096	(1,230,079)	14,449,322	-5.71%	1.37%
Russell 3000 Index	3,696,465	54,140	47,877	916,590	4,715,072	27.56%	1.30%
US Real Estate Investment Trust Index	2,012,246	16,253	21,860	(93,908)	1,956,451	-2.77%	0.82%
World Equity Ex-US Index	9,517,780	(101,393)	104,253	503,121	10,023,761	5.32%	-1.03%
Long US Treasury Bond Index	80,345	1,186	2,626	8,175	92,332	14.92%	1.38%
US Treasury Inflation Protected Sec Index	637,904	442	8,051	147,568	793,965	24.46%	0.06%
World Government Bond Ex-US Index	1,044,418	(20,260)	12,586	278,902	1,315,646	25.97%	-1.70%
Global Balanced Fund	4,210,893	(1,232)	48,914	352,944	4,611,519	9.51%	-0.03%
Total Investments with SSGA	<u>36,554,772</u>	<u>152,376</u>	<u>399,037</u>	<u>931,191</u>	<u>38,037,376</u>		
BlackRock							
Government Bond Fund	5,832,465	35,963	67,419	678,594	6,614,441	13.41%	0.58%
Intermediate Bond Fund	100,177	405	1,551	2,505	104,638	4.45%	0.40%
Total Investments with BlackRock	<u>5,932,642</u>	<u>36,368</u>	<u>68,970</u>	<u>681,099</u>	<u>6,719,079</u>		
Brandes Institutional							
International Equity Fund Fee	14,430,945	(440,663)	140,422	(1,448,801)	12,681,903	-12.12%	-3.20%
RCM							
Sustainable Opportunities Fund	2,305,050	32,726	24,876	(339,255)	2,023,397	-12.22%	1.52%
Total Externally Managed Funds	<u>128,911,954</u>	<u>546,539</u>	<u>2,438,201</u>	<u>-</u>	<u>131,896,694</u>		
Total All Funds	<u>\$ 131,602,756</u>	<u>\$ 547,059</u>	<u>\$ 2,313,320</u>	<u>\$ -</u>	<u>\$ 134,463,135</u>	2.17%	0.41%

Notes: (1) Represents net contributions in transit to/from the record keeper. (2) Source data provided by the record keeper, Great West Life.

(3) Income divided by beginning assets plus half of net contributions/(withdrawals). Actual returns are calculated by Callan and Associates and can be found at: <http://www.revenue.state.ak.us/treasury/programs/programs/other/armb/investmentresults.aspx>

Defined Contribution Retirement - Participant Directed TRS
Schedule of Invested Assets with
Schedule of Investment Income and Changes in Invested Assets
By Month Through the Month Ended
February 28, 2013
\$(Thousands)

Invested Assets (At Fair Value)	July	August	September	October	November	December	January	February
Investments with Treasury Division								
Cash and cash equivalents	\$ 2,513	\$ 2,494	\$ 2,515	\$ 2,766	\$ 2,448	\$ 2,651	\$ 2,691	\$ 2,566
Investments with T. Rowe Price								
Alaska Money Market	1,365	1,366	1,376	1,375	1,343	1,467	1,518	1,633
Small-Cap Stock Fund	15,252	15,807	16,168	16,152	16,587	16,783	16,963	16,344
Long Term Balanced Fund	2,302	2,405	2,537	2,574	2,648	3,315	4,633	5,966
Alaska Balanced Fund	165	124	128	133	141	147	230	239
AK Target Date 2010 Trust	378	364	356	321	319	333	288	298
AK Target Date 2015 Trust	1,010	1,026	1,058	1,059	1,107	1,165	1,208	1,248
AK Target Date 2020 Trust	1,923	1,972	2,022	2,048	2,141	2,258	2,391	2,488
AK Target Date 2025 Trust	2,430	2,439	2,539	2,626	2,752	2,898	3,075	3,200
AK Target Date 2030 Trust	2,360	2,408	2,519	2,630	2,790	2,987	3,235	3,368
AK Target Date 2035 Trust	3,894	3,918	4,087	4,220	4,478	4,810	5,182	5,422
AK Target Date 2040 Trust	4,427	4,465	4,607	4,694	4,950	5,265	5,651	5,872
AK Target Date 2045 Trust	8,006	8,164	8,381	8,539	8,972	9,590	10,365	10,764
AK Target Date 2050 Trust	10,300	10,457	10,828	11,108	11,698	12,489	13,539	14,072
AK Target Date 2055 Trust	808	817	880	978	1,095	1,237	1,410	1,522
Investments with State Street Global Advisors								
Money Market	45	51	56	35	36	34	31	79
S&P 500 Stock Index Fund Series A	12,356	13,434	14,644	15,548	15,865	15,465	15,324	14,449
Russell 3000 Index	1,734	1,608	1,492	1,314	1,387	2,431	3,696	4,715
US Real Estate Investment Trust Index	1,857	1,829	1,803	1,846	1,879	1,969	2,012	1,956
World Equity Ex-US Index	4,329	5,333	6,416	7,484	7,662	8,585	9,518	10,024
Long US Treasury Bond Index	55	56	56	73	97	96	80	92
US Treasury Inflation Protected Sec Index	438	460	474	507	522	543	638	794
World Government Bond Ex-US Index	660	707	754	782	798	836	1,044	1,316
Global Balanced Fund	3,112	3,243	3,451	3,544	3,648	3,805	4,211	4,612
Investments with BlackRock								
Government Bond Fund	4,816	4,943	5,125	5,367	5,395	5,352	5,832	6,614
Intermediate Bond Fund	76	76	77	79	102	101	100	105
Investments with Brandes Investment Partners								
International Equity Fund Fee	17,157	16,560	15,767	14,756	15,002	15,007	14,431	12,682
Investments with RCM								
Sustainable Opportunities Fund	4,989	4,185	3,410	2,456	2,516	2,433	2,305	2,023
Total Invested Assets	\$ 108,757	\$ 110,711	\$ 113,526	\$ 115,012	\$ 118,376	\$ 124,052	\$ 131,603	\$ 134,463
Change in Invested Assets								
Beginning Assets	\$ 107,836	\$ 108,757	\$ 110,711	\$ 113,526	\$ 115,012	\$ 118,376	\$ 124,052	\$ 131,603
Investment Earnings	421	2,609	2,392	(1,146)	1,052	2,435	5,252	547
Net Contributions (Withdrawals)	500	(655)	423	2,632	2,312	3,241	2,299	2,313
Ending Invested Assets	\$ 108,757	\$ 110,711	\$ 113,526	\$ 115,012	\$ 118,376	\$ 124,052	\$ 131,603	\$ 134,463

ALASKA RETIREMENT MANAGEMENT BOARD

FINANCIAL REPORT

(Supplement to the Treasury Division Report)

As of February 28, 2013

Prepared by the Division of Retirement & Benefits

ALASKA RETIREMENT MANAGEMENT BOARD
SCHEDULE OF NON-INVESTMENT CHANGES BY FUND
(Supplement to the Treasury Division Report)
For the Eight Months Ending February 28, 2013

	Contributions				Expenditures				Net Contributions/ (Withdrawals)
	Contributions EE and ER	State of Alaska	Other	Total Contributions	Benefits	Refunds	Administrative & Investment	Total Expenditures	
Public Employees' Retirement System (PERS)									
<u>Defined Benefit Plans:</u>									
Retirement Trust	\$ 192,224,102	\$ 164,087,043	\$ (17,888)	\$ 356,293,257	\$ (395,828,636)	\$ (7,753,384)	\$ (22,774,127)	\$ (426,356,147)	\$ (70,062,890)
Retirement Health Care Trust	148,780,577	143,215,349	6,269,069	298,264,995	(234,496,492)	-	(5,578,780)	(240,075,272)	58,189,723
Total Defined Benefit Plans	341,004,679	307,302,392	6,251,181	654,558,252	(630,325,128)	(7,753,384)	(28,352,907)	(666,431,419)	(11,873,167)
<u>Defined Contribution Plans:</u>									
Participant Directed Retirement	55,101,994	-	-	55,101,994	-	(11,511,284)	(1,763,323)	(13,274,607)	41,827,387
Health Reimbursement Arrangement	(a) 14,682,045	-	-	14,682,045	-	-	(9,405)	(9,405)	14,672,640
Retiree Medical Plan	(a) 2,046,494	-	-	2,046,494	-	-	(9,405)	(9,405)	2,037,089
Occupational Death and Disability:	(a)								
Public Employees	552,857	-	-	552,857	-	-	-	-	552,857
Police and Firefighters	456,588	-	-	456,588	(31,577)	-	-	(31,577)	425,011
Total Defined Contribution Plans	72,839,978	-	-	72,839,978	(31,577)	(11,511,284)	(1,782,133)	(13,324,994)	59,514,984
Total PERS	413,844,657	307,302,392	6,251,181	727,398,230	(630,356,705)	(19,264,668)	(30,135,040)	(679,756,413)	47,641,817
Teachers' Retirement System (TRS)									
<u>Defined Benefit Plans:</u>									
Retirement Trust	46,052,761	196,944,800	18,167	243,015,728	(252,906,720)	(1,983,056)	(9,277,035)	(264,166,811)	(21,151,083)
Retirement Health Care Trust	20,346,401	105,832,353	2,513,653	128,692,407	(78,040,027)	-	(2,167,276)	(80,207,303)	48,485,104
Total Defined Benefit Plans	66,399,162	302,777,153	2,531,820	371,708,135	(330,946,747)	(1,983,056)	(11,444,311)	(344,374,114)	27,334,021
<u>Defined Contribution Plans:</u>									
Participant Directed Retirement	18,041,595	-	-	18,041,595	-	(4,174,254)	(802,175)	(4,976,429)	13,065,166
Health Reimbursement Arrangement	(a) 3,581,624	-	-	3,581,624	-	-	(3,240)	(3,240)	3,578,384
Retiree Medical Plan	(a) 591,576	-	-	591,576	-	-	(3,242)	(3,242)	588,334
Occupational Death and Disability:	(a) (23)	-	-	(23)	-	-	-	-	(23)
Total Defined Contribution Plans	22,214,772	-	-	22,214,772	-	(4,174,254)	(808,657)	(4,982,911)	17,231,861
Total TRS	88,613,934	302,777,153	2,531,820	393,922,907	(330,946,747)	(6,157,310)	(12,252,968)	(349,357,025)	44,565,882
Judicial Retirement System (JRS)									
Defined Benefit Plan Retirement Trust	3,139,736	3,650,650	-	6,790,386	(6,801,161)	-	(250,617)	(7,051,778)	(261,392)
Defined Benefit Retirement Health Care Trust	327,717	134,921	19,607	482,245	(774,509)	-	(16,062)	(790,571)	(308,326)
Total JRS	3,467,453	3,785,571	19,607	7,272,631	(7,575,670)	-	(266,679)	(7,842,349)	(569,718)
National Guard/Naval Militia Retirement System (NGNMRS)									
Defined Benefit Plan Retirement Trust	(a) 739,100	-	-	739,100	(1,061,627)	-	(143,784)	(1,205,411)	(466,311)
Other Participant Directed Plans									
Supplemental Annuity Plan	109,992,424	-	-	109,992,424	-	(102,718,344)	(5,098,236)	(107,816,580)	2,175,844
Deferred Compensation Plan	27,304,875	-	-	27,304,875	-	(25,347,945)	(749,380)	(26,097,325)	1,207,550
Total All Funds	643,962,443	613,865,116	8,802,608	1,266,630,167	(969,940,749)	(153,488,267)	(48,646,087)	(1,172,075,103)	94,555,064
Total Non-Participant Directed	433,521,555	613,865,116	8,802,608	1,056,189,279	(969,940,749)	(9,736,440)	(40,232,973)	(1,019,910,162)	36,279,117
Total Participant Directed	210,440,888	-	-	210,440,888	-	(143,751,827)	(8,413,114)	(152,164,941)	58,275,947
Total All Funds	\$ 643,962,443	\$ 613,865,116	\$ 8,802,608	\$ 1,266,630,167	\$ (969,940,749)	\$ (153,488,267)	\$ (48,646,087)	\$ (1,172,075,103)	\$ 94,555,064

(a) Employer only contributions.

ALASKA RETIREMENT MANAGEMENT BOARD
SCHEDULE OF NON-INVESTMENT CHANGES BY FUND
(Supplement to the Treasury Division Report)
For the Month Ended February 28, 2013

	Contributions			Total Contributions	Expenditures			Net Contributions/ (Withdrawals)	
	Contributions EE and ER	State of Alaska	Other		Benefits	Refunds	Administrative & Investment		Total Expenditures
Public Employees' Retirement System (PERS)									
<u>Defined Benefit Plans:</u>									
Retirement Trust	\$ 23,875,255	\$ -	\$ 1,244	\$ 23,876,499	\$ (50,135,221)	\$ (713,935)	\$ (3,214,130)	\$ (54,063,286)	\$ (30,186,787)
Retirement Health Care Trust	18,485,414	-	198,155	18,683,569	(26,142,429)	-	(657,599)	(26,800,028)	(8,116,459)
Total Defined Benefit Plans	42,360,669	-	199,399	42,560,068	(76,277,650)	(713,935)	(3,871,729)	(80,863,314)	(38,303,246)
<u>Defined Contribution Plans:</u>									
Participant Directed Retirement	7,218,273	-	-	7,218,273	-	(1,307,418)	(97,159)	(1,404,577)	5,813,696
Health Reimbursement Arrangement (a)	2,042,320	-	-	2,042,320	-	-	(108)	(108)	2,042,212
Retiree Medical Plan (a)	266,525	-	-	266,525	-	-	(107)	(107)	266,418
Occupational Death and Disability: (a)									
Public Employees	70,177	-	-	70,177	-	-	-	-	70,177
Police and Firefighters	55,374	-	-	55,374	(3,949)	-	-	(3,949)	51,425
Total Defined Contribution Plans	9,652,669	-	-	9,652,669	(3,949)	(1,307,418)	(97,374)	(1,408,741)	8,243,928
Total PERS	52,013,338	-	199,399	52,212,737	(76,281,599)	(2,021,353)	(3,969,103)	(82,272,055)	(30,059,318)
Teachers' Retirement System (TRS)									
<u>Defined Benefit Plans:</u>									
Retirement Trust	7,367,107	-	763	7,367,870	(31,340,601)	(458,466)	(1,260,283)	(33,059,350)	(25,691,480)
Retirement Health Care Trust	3,072,509	-	75,437	3,147,946	(9,029,757)	-	(248,469)	(9,278,226)	(6,130,280)
Total Defined Benefit Plans	10,439,616	-	76,200	10,515,816	(40,370,358)	(458,466)	(1,508,752)	(42,337,576)	(31,821,760)
<u>Defined Contribution Plans:</u>									
Participant Directed Retirement	2,733,173	-	-	2,733,173	-	(382,404)	(37,449)	(419,853)	2,313,320
Health Reimbursement Arrangement (a)	588,315	-	-	588,315	-	-	(38)	(38)	588,277
Retiree Medical Plan (a)	94,147	-	-	94,147	-	-	(38)	(38)	94,109
Occupational Death and Disability: (a)	-	-	-	-	-	-	-	-	-
Total Defined Contribution Plans	3,415,635	-	-	3,415,635	-	(382,404)	(37,525)	(419,929)	2,995,706
Total TRS	13,855,251	-	76,200	13,931,451	(40,370,358)	(840,870)	(1,546,277)	(42,757,505)	(28,826,054)
Judicial Retirement System (JRS)									
Defined Benefit Plan Retirement Trust	242,722	-	-	242,722	(871,341)	-	(39,017)	(910,358)	(667,636)
Defined Benefit Retirement Health Care Trust	27,040	-	539	27,579	(67,176)	-	(1,796)	(68,972)	(41,393)
Total JRS	269,762	-	539	270,301	(938,517)	-	(40,813)	(979,330)	(709,029)
National Guard/Naval Militia Retirement System (NGNMRS)									
Defined Benefit Plan Retirement Trust (a)	-	-	-	-	(129,429)	-	(16,660)	(146,089)	(146,089)
Other Participant Directed Plans									
Supplemental Annuity Plan	13,640,197	-	-	13,640,197	-	(12,449,816)	(1,516,250)	(13,966,066)	(325,869)
Deferred Compensation Plan	1,995,448	-	-	1,995,448	-	(3,891,686)	(93,910)	(3,985,596)	(1,990,148)
Total All Funds	81,773,996	-	276,138	82,050,134	(117,719,903)	(19,203,725)	(7,183,013)	(144,106,641)	(62,056,507)
Total Non-Participant Directed	56,186,905	-	276,138	56,463,043	(117,719,903)	(1,172,401)	(5,438,245)	(124,330,549)	(67,867,506)
Total Participant Directed	25,587,091	-	-	25,587,091	-	(18,031,324)	(1,744,768)	(19,776,092)	5,810,999
Total All Funds	\$ 81,773,996	\$ -	\$ 276,138	\$ 82,050,134	\$ (117,719,903)	\$ (19,203,725)	\$ (7,183,013)	\$ (144,106,641)	\$ (62,056,507)

(a) Employer only contributions.

ALASKA RETIREMENT MANAGEMENT BOARD

Private Equity 2013 Tactical Plan

Staff Summary and Overview

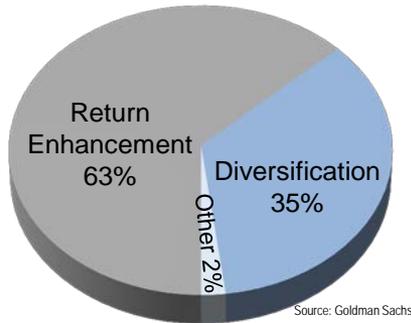
Zachary Hanna, CFA
State Investment Officer

ARMB Private Equity Program

- Private Equity Overview
- Market Review
- ARMB Portfolio
- Diversification
- 2012 Commitments
- 2013 Outlook & Tactical Plan

Overview – Private Equity Investment

- Private equity – unregistered investments in operating companies.
- Why do fund sponsors invest in private equity?



- Private equity is expected to deliver long-term returns in excess of the public markets.

Private Equity Returns through September 30, 2012

Investment Type	5 Year	10 Year	20 Year
Venture Capital	8.0%	3.7%	15.8%
Buyouts	2.8%	10.3%	10.3%
All Private Equity	3.0%	8.8%	11.2%
Russell 3000	1.3%	8.5%	7.5%

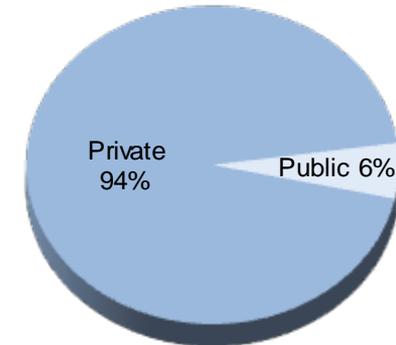
Source: Thomson Reuters. The private equity returns are pooled average IRRs and do not represent top quartile returns. The time-weighted Russell 3000 returns are not directly comparable.

Overview – Unique Characteristics

- Positive Characteristics:
 - Larger, more diverse investment universe
 - Less efficient companies – opportunity to create value
 - Less efficient markets – pricing opportunities
 - Control and alignment of interests
 - Managed for long-term value

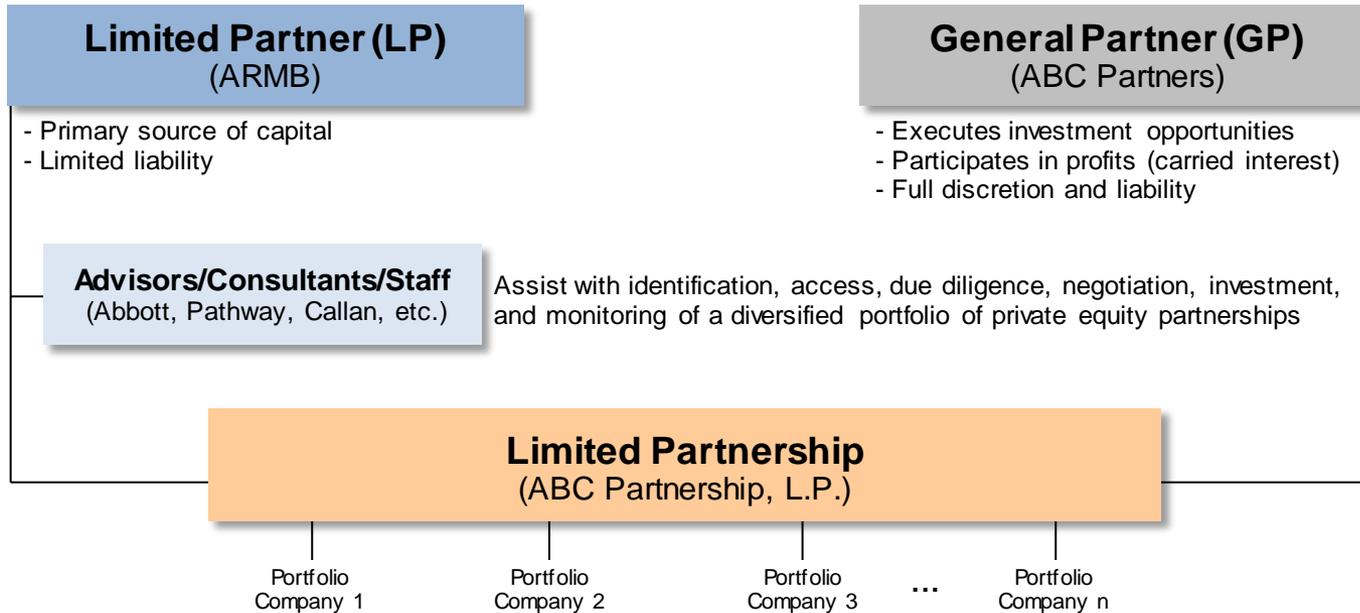
- Other Characteristics:
 - Illiquid, long-term investments
 - High fees and J-curve
 - Potential for high leverage
 - Portfolio transparency and valuation issues
 - Incomplete data and benchmarks

Public and Private Companies: Hoovers 2012
57,428 Companies \$25+ million in Revenue

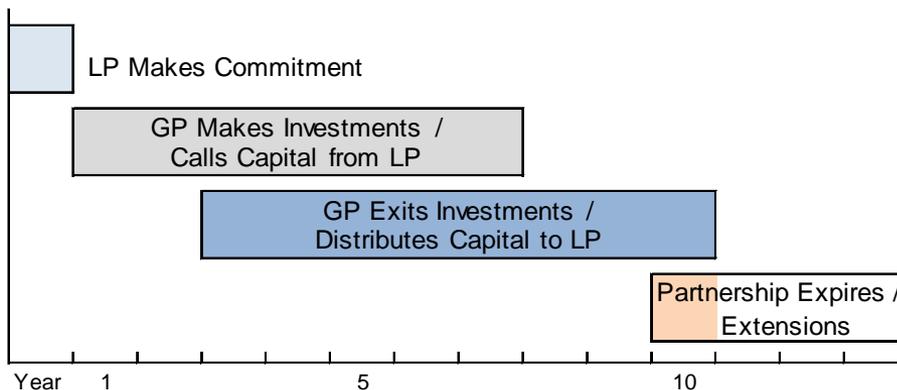


Overview – Structure

- Private equity investments are typically made through limited partnerships:



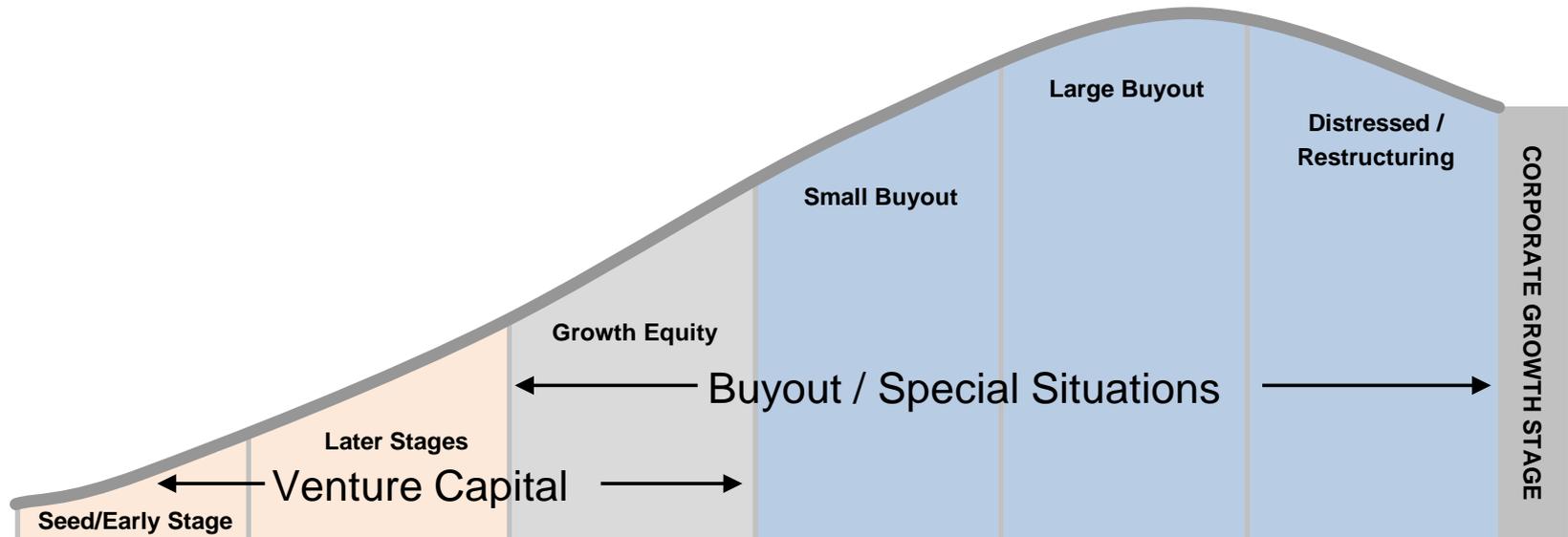
- Private equity liquidity and cash flow characteristics:



Overview – Primary Strategies

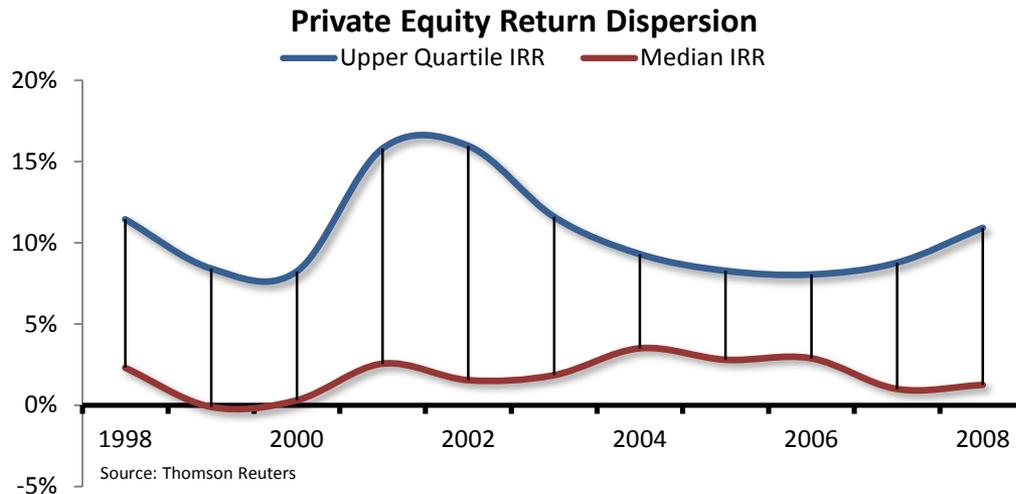
Private equity partnerships are classified into three primary groups:

- Venture Capital** Investments in companies developing new products and services. Value creation focuses on managing entrepreneurial companies through high growth.
- Buyout** Control investments in more mature operating companies. Value creation generally focuses on driving operational and capital structure efficiency.
- Special Situations** Generally buyout style investments with a specialty focus; including groups that have a specific industry, investment style, or capital structure focus. Value creation focuses on specialized skills and efficiency.

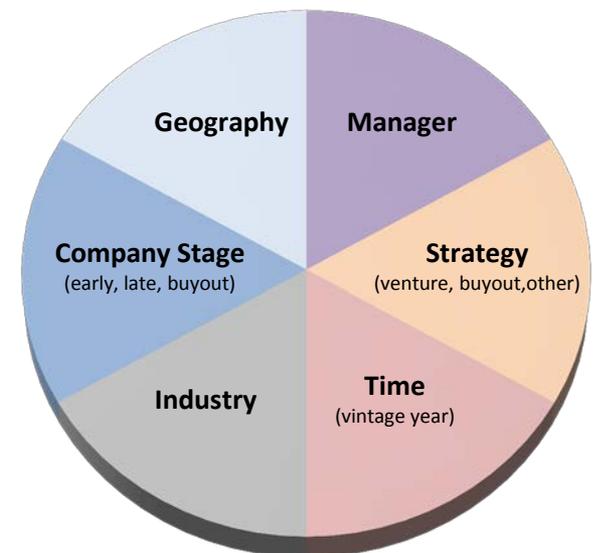


Private Equity Program Implementation

- Manager access, selection, and diligence are important. Investing consistently with top quartile managers is critical.

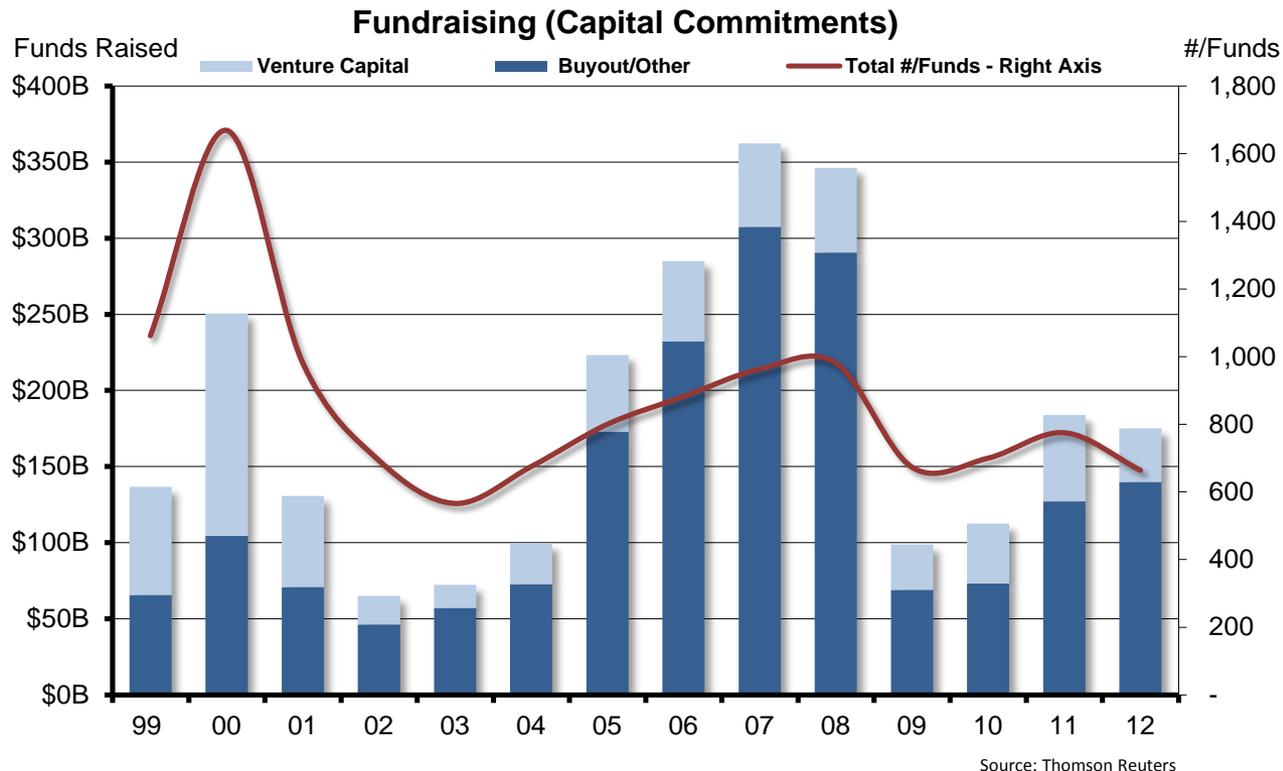


- Long-term diversification is important.
- The goal is to build a portfolio of quality partnerships diversified by strategy, industry, geography, investment stage, manager, and time.



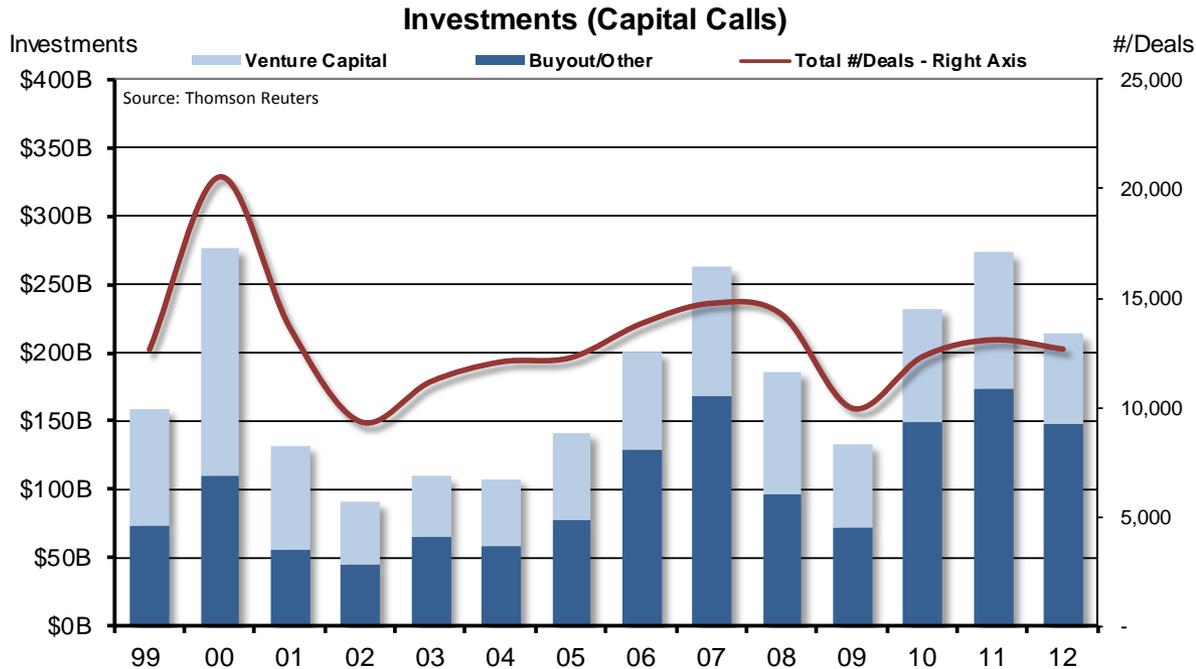
Market – Fundraising

- Fundraising had a modest decline in 2012 and remains significantly lower than peak levels.
- Funds are generally smaller, fundraising takes longer, and terms are more LP friendly.
- There will be a continued reduction in poor performing general partnerships.

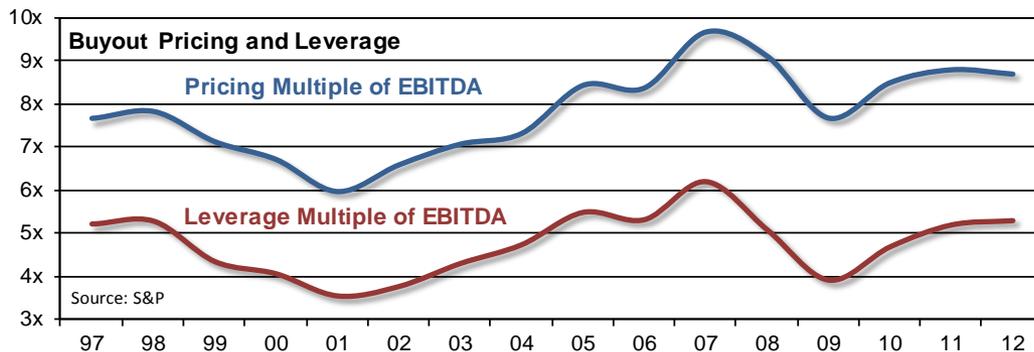


Market – Investing

- Investment activity decreased for both buyout and venture funds since deal pricing was competitive. Investment activity remains above fundraising levels – dry powder is declining.



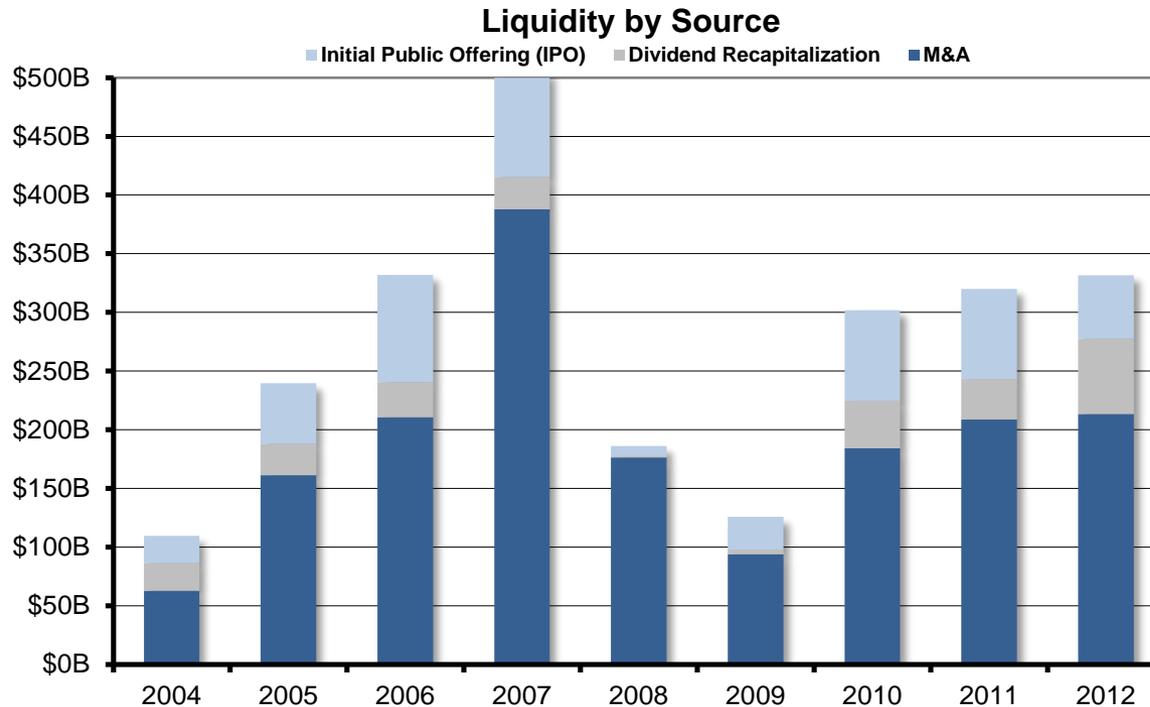
- Deal pricing and leverage were largely unchanged.



Market – Exit Opportunities

Overall private equity exit activity was strong:

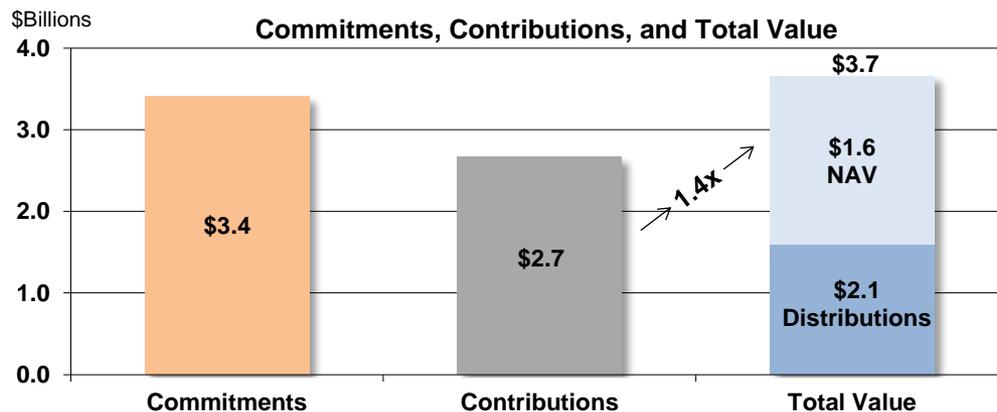
- Merger and acquisition activity remained strong at \$213 billion.
- The credit markets had a record year and dividend recapitalizations reached an all-time high of \$64 billion.
- Public market exits decreased to \$54 billion due to slow European IPO activity.



Source: Thomson Reuters & S&P. Global developed markets, except dividend recapitalization data which is U.S. only.

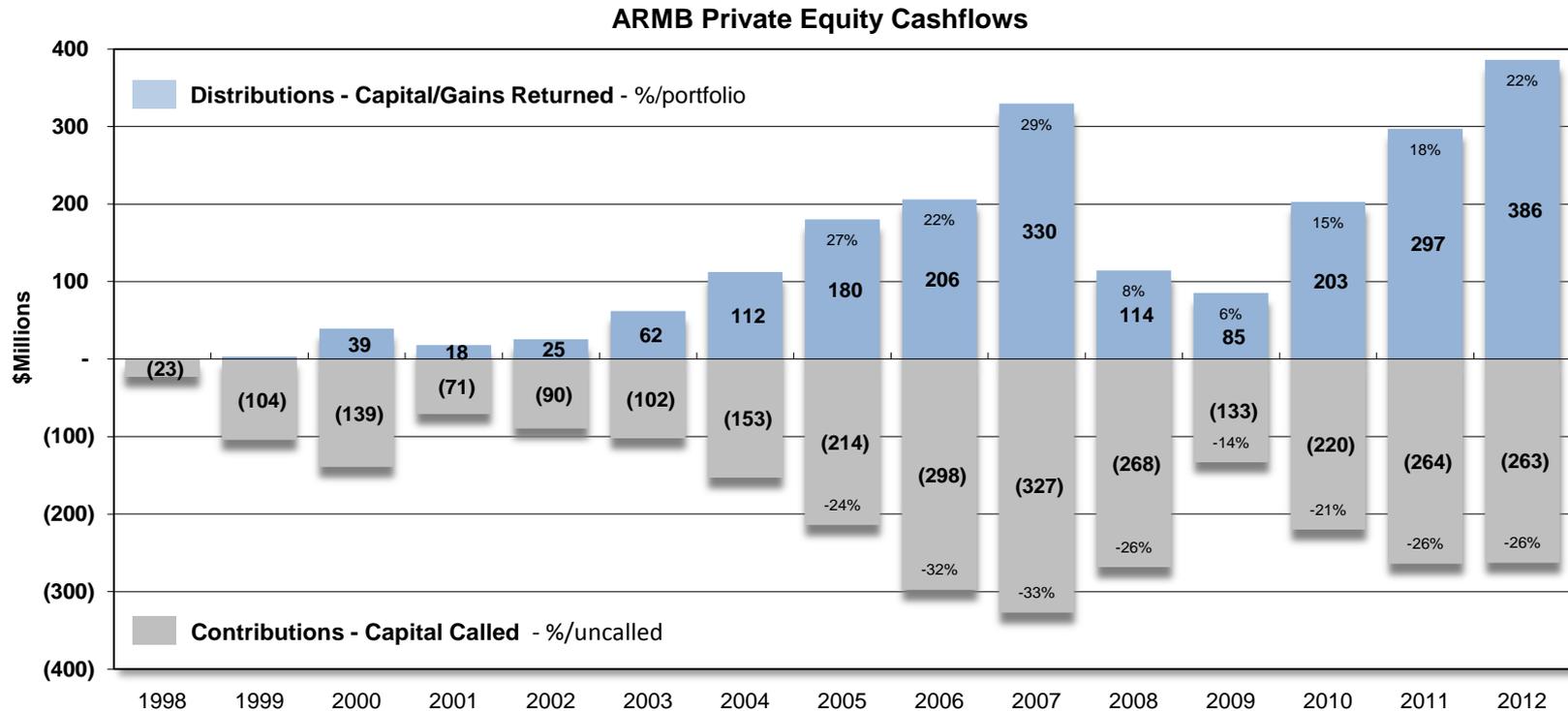
ARMB Portfolio Performance

- The ARMB directly invests in private equity and uses gatekeepers, Abbott Capital Management (1998) and Pathway Capital Management (2001). The allocation has increased from 3% to 8% and is expected to rise to 9% over the long term.
- Private equity has been volatile since the ARMB first invested in 1998. Technology and venture capital excesses gave way to a buyout dominated market. The market peak in 2007 was characterized by strong returns, but also by high prices and leverage. Private equity didn't fall as far as the public market through the recent downturn and has had a more modest recovery.
- The ARMB and its advisors have built a diversified portfolio of quality partnerships. Manager selection has been strong. Callan recently reported on ten vintage years through 2007 – six were top quartile and four were second quartile. Overall the program is in the top quartile.
- Portfolio performance has been strong. The internal rate of return through 2012 is 9.4% versus a public market equivalent of 4.4% for the S&P 500 and 4.9% for the Russell 3000. The calendar year 2012 return for the portfolio was 14.0%.



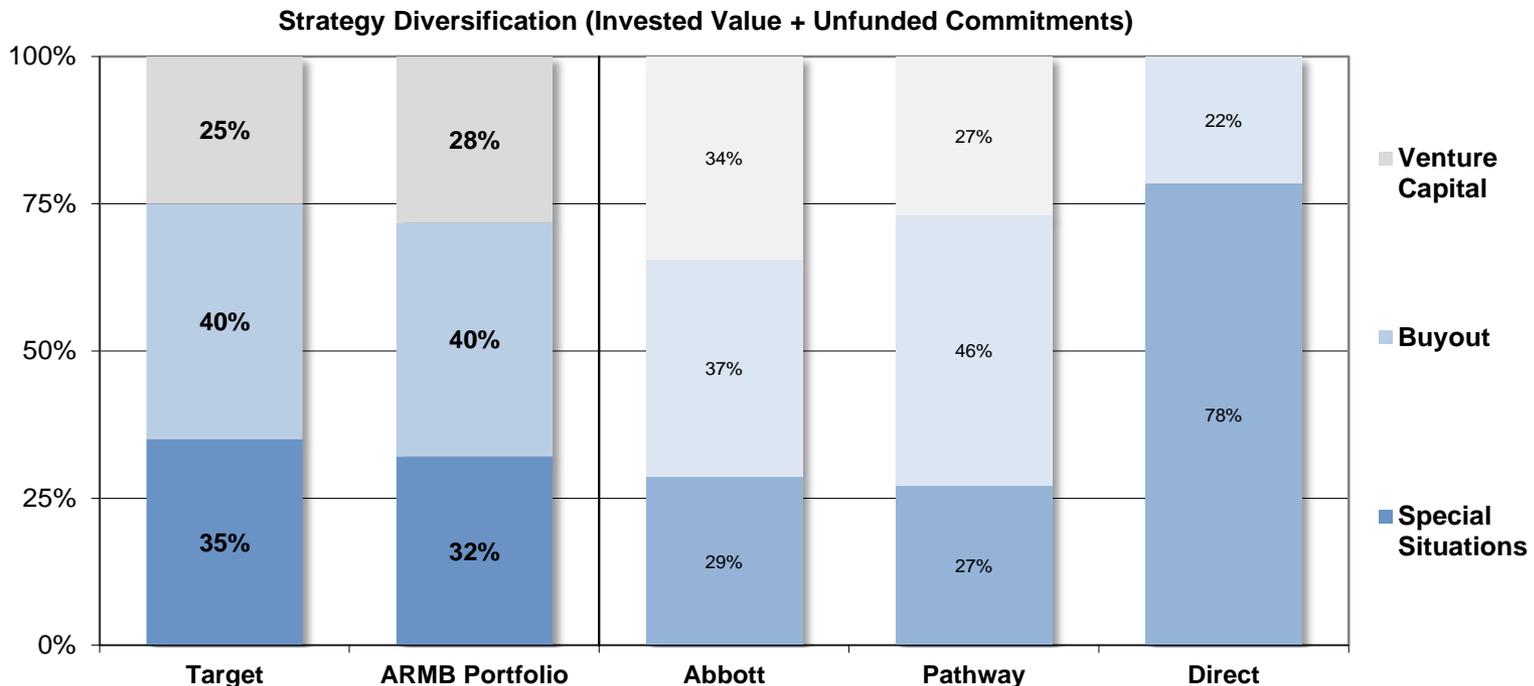
Portfolio Cash Flows

- For 2012, distributions increased 30% to \$386 million.
- Contributions were steady at \$263 million.
- Net cash flows were \$123 million, 8% of beginning assets.



Diversification by Strategy

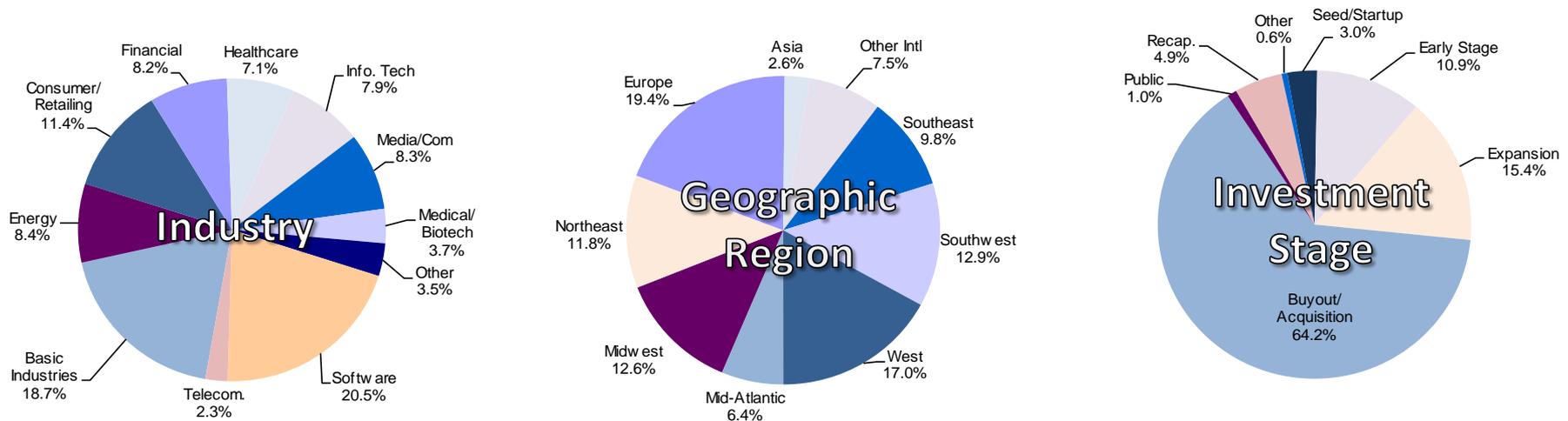
- The portfolio is well diversified by private equity strategy.
- Strategy exposure is well within the policy bands.
- The direct partnership portfolio will become more diversified as it matures.



Diversification by Portfolio Company

The portfolio is well diversified and composed of over 2,000 underlying companies:

- Industry – The portfolio is well diversified by industry, with no sector making up more than 20.5% of the portfolio.
- Geographic Region – The portfolio is well diversified geographically. International is 29.5% of the portfolio.
- Investment Stage – By investment stage, buyout/acquisition is the highest at 64.2% due to the relatively high levels of activity by buyout and special situations funds.



2012 Commitments

- The commitment target for 2012 was \$335 million.
- \$268.1 million was committed during the year.
- \$120.6 million by Abbott, \$117.5 million by Pathway, and \$30.0 million directly.
- Commitments were well diversified by investment strategy.

Commitments for 2012 (\$millions)

Manager	Target	Actual	Number of Investments	Investment Strategy					
				Venture	%	Buyout	%	Special Situations	%
Abbott	\$135.0	\$120.6	13	\$43.3	36%	\$36.3	30%	\$41.0	34%
Pathway	\$125.0	\$117.5	12	\$45.6	39%	\$30.0	26%	\$41.9	36%
Direct	\$75.0	\$30.0	1	\$0.0	0%	\$0.0	0%	\$30.0	100%
Total	\$335.0	\$268.1	26	\$88.9	33%	\$66.3	25%	\$112.9	42%

2013 Outlook

Private equity is expected to continue to improve along with increased economic and capital market stability.

- ***Reasonable exit environment.*** The exit environment for private equity is expected to be strong. Mergers and acquisitions should continue due to high levels of corporate cash, supportive stock market valuations, and largely modest internal growth prospects. The credit markets are accommodative due to yield-driven investors and the public equity market should also be open along with a rising stock market.
- ***Measured investment pace.*** The investment pace should be measured due to relatively high pricing and increased competition from strategic acquirers, but credit markets are supportive of increased activity and higher deal pricing is a downside risk.
- ***Modest fundraising recovery.*** Fundraising should recover for tenured groups with strong track records since allocation issues for limited partners have lessened as private equity sponsors return capital and reduce the overhang of un-invested funds.

2013 Tactical Plan

- Staff is recommending a 2013 commitment target of \$355 million. \$145 million for Abbott, \$125 million for Pathway, and \$85 million in direct partnership investments with an increase in commitment pacing over the ten year planning horizon.
- Private equity is currently close to the recommended 9% allocation. The allocation will fluctuate over time, but is expected to stay well within the $\pm 5\%$ band.

Private Equity Funding Schedule	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Beginning Fund Assets (\$MM)	15,650,932	17,360,041	18,449,319	19,690,936	21,124,228	22,591,286	24,050,476	25,501,679	26,935,832	28,331,470	29,690,364
Fund Net Growth Rate	10.9%	6.3%	6.7%	7.3%	6.9%	6.5%	6.0%	5.6%	5.2%	4.8%	4.4%
Additions from Net Fund Growth	1,709,109	1,089,278	1,241,617	1,433,292	1,467,058	1,459,190	1,451,203	1,434,153	1,395,638	1,358,895	1,317,125
Ending Fund Assets	17,360,041	18,449,319	19,690,936	21,124,228	22,591,286	24,050,476	25,501,679	26,935,832	28,331,470	29,690,364	31,007,489
Target Private Equity %	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
Private Equity Asset Value Target	1,562,404	1,660,439	1,772,184	1,901,180	2,033,216	2,164,543	2,295,151	2,424,225	2,549,832	2,672,133	2,790,674
Asset Value by Manager (\$MM)											
Abbott	724,678	708,378	693,944	682,562	673,035	674,169	686,898	709,415	759,541	812,110	865,600
Pathway	740,276	742,295	737,376	733,502	740,013	760,398	799,006	853,877	911,741	975,960	1,045,859
Direct Investments	130,251	170,776	219,236	277,014	346,202	424,731	517,511	615,839	705,426	792,197	873,928
Total Projected Asset Value	1,595,205	1,621,449	1,650,557	1,693,078	1,759,250	1,859,298	2,003,416	2,179,131	2,376,708	2,580,267	2,785,387
Private Equity % of Fund	9.2%	8.8%	8.4%	8.0%	7.8%	7.7%	7.9%	8.1%	8.4%	8.7%	9.0%
Annual Commitments (\$MM)											
Abbott	114,607	145,000	154,000	163,000	173,000	183,000	194,000	206,000	218,000	231,000	245,000
Pathway	117,489	125,000	125,000	155,000	164,000	174,000	184,000	195,000	207,000	219,000	232,000
Direct Investments	30,000	85,000	95,000	105,000	115,000	125,000	133,000	141,000	149,000	158,000	167,000
Total Commitments by Year	262,096	355,000	374,000	423,000	452,000	482,000	511,000	542,000	574,000	608,000	644,000

ALASKA RETIREMENT MANAGEMENT BOARD

SUBJECT: Annual Tactical Plan for Private Equity ACTION: X
Resolution 2013-03
DATE: April 18, 2013 INFORMATION: _____

BACKGROUND:

The Alaska Retirement Management Board's (ARMB) "Private Equity Partnerships Portfolio Policies and Procedures" calls for the preparation and adoption of an "Annual Tactical Plan" (Plan). The Plan reviews the current status of the portfolio, historical and prospective market conditions, and the annual investment strategy designed to further the ARMB's goals and objectives for the private equity program.

STATUS:

The Plan consists of an overview and summary prepared by staff with integrated tactical plans prepared by the ARMB's private equity investment managers. Staff's overview and summary of the ARMB's consolidated private equity portfolio addresses the following:

- I. 2012 Investment Activity
- II. Funding Position
- III. Diversification
- IV. Market Conditions
- V. 2013 Tactical Plan

RECOMMENDATION:

That the Alaska Retirement Management Board adopt Resolution 2013-03 approving the 2013 Annual Tactical Plan.

Attachment: ARMB 2013 Annual Tactical Plan for Private Equity

State of Alaska
ALASKA RETIREMENT MANAGEMENT BOARD

Relating to Private Equity Annual Tactical Plan
Resolution 2013-03

WHEREAS, the Alaska Retirement Management Board (Board) was established by law to serve as trustee to the assets of the State's retirement systems; and

WHEREAS, under AS 37.10.210-220, the Board is to establish and determine the investment objectives and policy for each of the funds entrusted to it; and

WHEREAS, AS 37.10.071 and AS 37.10.210-220 require the Board to apply the prudent investor rule and exercise the fiduciary duty in the sole financial best interest of the funds entrusted to it and treat beneficiaries thereof with impartiality; and

WHEREAS, the Board contracts an independent consultant to provide experience and expertise in asset allocation and other investment matters to come before the Board; and

WHEREAS, the Board has established an asset allocation for the funds that considers earnings and liabilities on a current as well as a future basis; and

WHEREAS, the Board has authorized investment in private equity assets for the State of Alaska Retirement and Benefits Plans; and

WHEREAS, the Board will establish, and on an annual basis review, an investment plan for private equity;

NOW THEREFORE, BE IT RESOLVED THAT THE ALASKA RETIREMENT MANAGEMENT BOARD adopts the 2013 Annual Tactical Plan for Private Equity which is attached hereto and made a part hereof.

DATED at Juneau, Alaska this _____ day of April, 2013.

Chair

ATTEST:

Secretary

ALASKA RETIREMENT MANAGEMENT BOARD

2013 ANNUAL TACTICAL PLAN FOR PRIVATE EQUITY

The Alaska Retirement Management Board's (ARMB) "Private Equity Partnerships Portfolio Policies and Procedures" calls for the preparation and adoption of an "Annual Tactical Plan" (Plan). The Plan reviews the current status of the portfolio, historical and prospective market conditions, and the annual investment strategy designed to further the ARMB's goals and objectives for the private equity program.

The Plan consists of an overview and summary prepared by staff with integrated tactical plans prepared by the ARMB's private equity investment managers. Staff's overview and summary of the ARMB's consolidated private equity portfolio addresses the following:

- I. 2012 Investment Activity
- II. Funding Position
- III. Diversification
- IV. Market Conditions
- V. 2013 Tactical Plan

OVERVIEW AND SUMMARY

Quality private equity portfolios have historically provided high long-term returns with lower correlation to bonds and public equities. The Alaska retirement systems started investing in private equity in 1998 to enhance returns and further diversify the portfolio. The ARMB makes direct partnership investments and employs investment managers, or gatekeepers, who have discretion to make investments in private equity partnerships on the systems' behalf.

The initial gatekeeper, Abbott Capital Management, was hired in 1998 with an allocation of 3.0% of the Fund. In 2001, the allocation to private equity was increased to 6.0% and an additional gatekeeper, Pathway Capital Management, was hired. In 2005, the ARMB started making investments directly in private equity partnerships. The following year, the allocation to private equity was increased to 7.0%. In 2007, the ARMB delegated authority to the CIO to make additional direct investments in private equity partnerships. The asset allocation for private equity increased to 8.0% in 2011 and the recommendation for 2013 is 9%.

The ARMB and its advisors have discretion to carefully select and invest in high quality partnerships while preserving diversification across strategy, industry, geography, and investment stage. Through 2012, the Alaska Retirement Systems have committed \$3.4 billion to private equity partnerships. This capital is typically drawn down over 5-7 year periods and 86% has been drawn through 2012. The invested value at the end of calendar year 2012 was \$1.6 billion, or 9.2% of the funds' asset allocation.

The private equity landscape has been dynamic since Alaska's initial investment in 1998. The collapse of the technology-related market of the late 1990's gave way to a period of slow rebuilding in the early 2000's. By 2005, private equity was again realizing high returns driven largely by buyout-oriented investments. The market peak in 2007 was characterized by strong returns, but also by high prices and leverage. In 2008, the severe dislocation in the capital markets slowed private equity activity and lowered returns. The market rebound in 2009 and 2010 benefited private equity portfolios, but has also reduced the buying opportunity that usually accompanies a recession. 2011 and 2012 were volatile years, but pockets of stability provided for a high level of private equity activity.

Throughout this dynamic period, the ARMB has assembled a strong and diversified portfolio of high quality partnerships using a disciplined investment approach. The portfolio has performed well when compared with the Thomson Reuters private equity universe. For the ten vintage years from 1998 through 2007, the ARMB portfolio was in the top quartile for six years and the second quartile for four years. Overall, taking into account investment pacing and the performance of each vintage year, the compound performance of the portfolio is in the top quartile for this ten year period.

The internal rate of return (IRR) for the portfolio was 9.4% from inception through 2012. The ARMB's private equity return compares favorably with public market equity investments. A public market equivalent return analysis treats the ARMB's private equity cash flows as if they had been used to buy or sell shares of a public market index. The 9.4% IRR for the ARMB private equity portfolio compares well with public market equivalent returns of 4.4% for the S&P 500 and 4.9% for the Russell 3000. The ARMB's long term benchmark for private equity is a premium to the Russell 3000 public market index of 350 basis points and the actual outperformance has been 450 basis points. The time-weighted return for the ARMB's private equity portfolio for calendar year 2012 was 14.0%.

Private equity has recovered meaningfully from the turmoil of 2008, but remains exposed to the ongoing and potentially fragile global economic recovery. Over the past year, largely receptive capital markets have provided liquidity and investment opportunities to private equity firms. The fundraising pace has also picked up as limited partners receive an increase in capital distributions and some general partners finish investing capital from 2005-2007 funds.

For 2013, staff is recommending an allocation of \$355 million in new commitments to be placed in quality, well diversified partnerships by Abbott, Pathway and the ARMB. This commitment pace should allow the ARMB private equity portfolio to achieve its recommended long term allocation of 9% over the ten year planning horizon.

I. 2012 INVESTMENT ACTIVITY

A. COMMITMENTS

The commitment target for 2012 was \$335 million and the ARMB closed on a combined total of \$268.1 million in new primary and secondary commitments.

Commitments for 2012 (\$millions)

Manager	Target	Actual	Number of Investments	Investment Strategy					
				Venture	%	Buyout	%	Special Situations	%
Abbott	\$135.0	\$120.6	13	\$43.3	36%	\$36.3	30%	\$41.0	34%
Pathway	\$125.0	\$117.5	12	\$45.6	39%	\$30.0	26%	\$41.9	36%
Direct	\$75.0	\$30.0	1	\$0.0	0%	\$0.0	0%	\$30.0	100%
Total	\$335.0	\$268.1	26	\$88.9	33%	\$66.3	25%	\$112.9	42%

The ARMB made 26 investments across 19 partnership groups. Abbott and Pathway both invested with Canaan, NEA, Advent, and Encap. Abbott and the ARMB direct program both invested with Warburg Pincus. The following table summarizes all the commitments made during 2012.

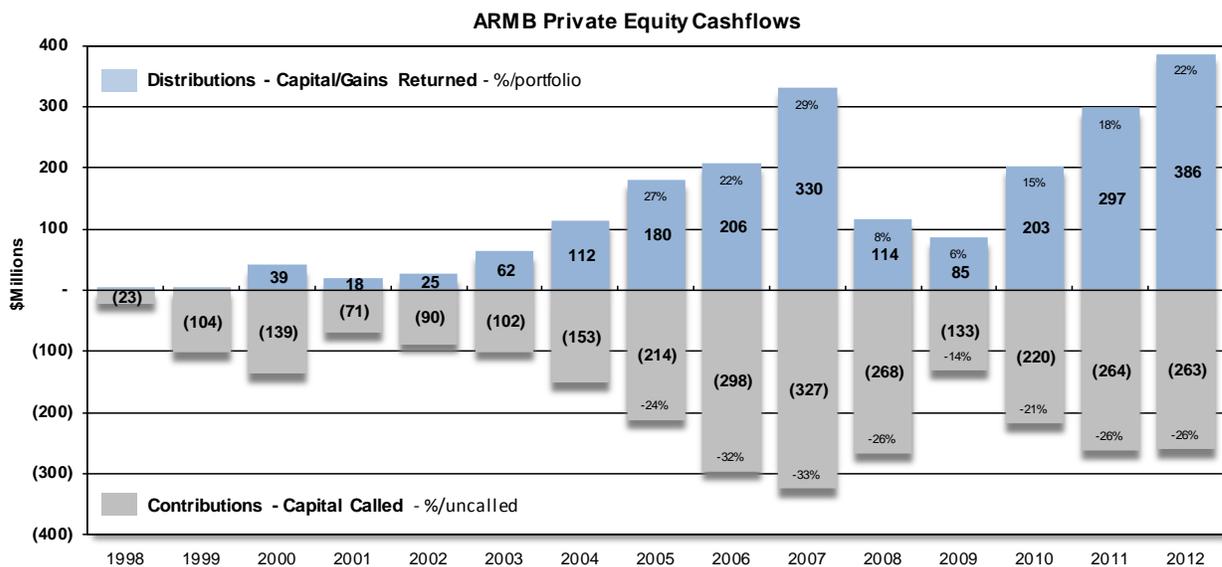
New Commitments for 2012 (\$millions)

Strategy	Partnership Fund	Description	Amount	% Total	Date	Advisor
Venture Capital	Canaan IX	Early-stage companies in the IT and healthcare space primarily in the U.S. and selectively in India and Israel.	\$9.0	3.4%	1/6/12	Abbott
	Canaan IX	Early-stage companies in the IT and healthcare space primarily in the U.S. and selectively in India and Israel.	\$10.0	3.7%	1/6/12	Pathway
	ChrysCapital VI	Growth equity investments in Indian companies across a variety of industries.	\$5.0	1.9%	3/26/12	Abbott
	Holtzbrinck Ventures V	Seed to expansion-stage financing in the consumer internet sector in the German-speaking region.	\$4.8	1.8%	5/10/12	Pathway
	IVP XIV	Venture capital investments in later- and expansion-stage information technology companies, primarily in the U.S.	\$13.5	5.0%	6/15/12	Pathway
	Mayfield XIV	Early-stage investments primarily in the enterprise, consumer, energy technology, telecom and semiconductor industries.	\$2.3	0.9%	7/11/12	Pathway
	New Enterprise Associates 14	Invests in a combination of early-stage VC, late-stage VC and venture growth equity investments in IT and healthcare.	\$15.0	5.6%	5/4/12	Pathway
	New Enterprise Associates 14	Invests in a combination of early-stage VC, late-stage VC and venture growth equity investments in IT and healthcare.	\$20.0	7.5%	5/4/12	Abbott
	Summit Partners Venture Capital Fund III-A	Private and profitable emerging growth companies in a variety of industries.	\$6.7	2.5%	1/4/12	Abbott
	Summit Partners Private Equity Fund VII - Secondary	Private and profitable emerging growth companies in a variety of industries.	\$2.2	0.8%	12/31/12	Abbott
	TA X - Secondary	Late-stage venture capital and small and middle-market buyout investments across various industries.	\$0.4	0.1%	12/31/12	Abbott
Venture Capital Subtotals			\$88.9	33.2%		
Buyouts	Advent International GPE VII	Invests in mid-market and upper mid-market control buyouts in Western Europe and North America	\$15.0	5.6%	6/29/12	Pathway
	Advent International GPE VII-B	Invests in mid-market and upper mid-market control buyouts in Western Europe and North America	\$20.0	7.5%	6/29/12	Abbott
	Archer Capital Fund 5	Invests in mid-market LBO's in Australia and New Zealand in companies with enterprise values between A\$200-700 million.	\$3.2	1.2%	1/31/12	Abbott
	Carlyle VI	Invests in leveraged buyouts, growth equity financings, and recapitalizations of companies based primarily in the U.S.	\$15.0	5.6%	12/31/12	Pathway
	ISIS V	Invests in lower mid-market buyout and growth deals in the U.K. Sector focus has been in a variety of industries.	\$9.7	3.6%	3/23/12	Abbott
	The Resolute Fund - Secondary	Middle-market buyout investments in companies operating across a broad range of industries.	\$3.4	1.3%	6/28/12	Abbott
Buyout Subtotals			\$66.3	24.7%		
Special Situations	ABRY Senior Equity IV	Pursues senior equity/mezzanine investments in middle-market media, communications and information services businesses.	\$5.0	1.9%	12/7/12	Abbott
	Centerbridge SCP II	Pursues non-control distressed investments predominantly originated in North America and Europe.	\$10.0	3.7%	3/1/12	Pathway
	EnCap Energy Capital Fund IX	Investments in the independent sector of the oil and gas industry in the U.S. and Canada.	\$16.0	6.0%	12/16/12	Abbott
	EnCap Energy Capital Fund IX	Investments in the independent sector of the oil and gas industry in the U.S. and Canada.	\$10.0	3.7%	12/19/12	Pathway
	OCM IX	Invests in debt-related investments in small to middle-market distressed companies.	\$10.0	3.7%	5/23/12	Pathway
	Warburg Pincus Private Equity XI	Growth-oriented multi-stage global investor with significant exposure to emerging markets	\$30.0	11.2%	12/11/12	Direct
	Warburg Pincus Private Equity XI	Growth-oriented multi-stage global investor with significant exposure to emerging markets	\$20.0	7.5%	5/9/12	Abbott
	Wayzata III	Primarily invested in debt securities and other obligations of distressed entities.	\$10.0	3.7%	6/29/12	Pathway
	Wayzata II - Secondary	Primarily invested in debt securities and other obligations of distressed entities.	\$1.9	0.7%	12/31/12	Pathway
Special Situations Subtotals			\$112.9	42.1%		
Abbott Subtotal			\$120.6	45.0%		
Pathway Subtotal			\$117.5	43.8%		
Direct Subtotal			\$30.0	11.2%		
TOTAL (\$MM)			\$268.1	100.0%		

B. INVESTMENT ACTIVITY

The ARMB's capital commitments are called by private equity partnerships as they make investments in underlying portfolio companies. Capital calls made during 2012 by the ARMB's private equity groups totaled \$262.7 million, similar to the level of 2011 investments. Capital calls were 26% of uncalled capital, the same percentage as 2011 and close to the longer term average. Capital calls by strategy were 40% buyout, 33% special situations, and 27% venture capital.

The ARMB received \$386.0 million in distributions from private equity partnerships in 2012, a 30% increase from 2011 and the highest level of distributions since the program's inception. Distributions have increased steadily since 2009 as the exit environment has improved. Adjusted for the size of the portfolio, distributions were 22% of the portfolio for 2012, higher than the past four years, but below peak market distributions in 2007 of 29%. The distributions were split 46%, 48% and 6% between Abbott, Pathway and Direct portfolios respectively.



C. STOCK DISTRIBUTIONS

During 2012, Abbott and Pathway sold \$18.7 million in stock distributed in-kind to the ARMB. The ARMB experienced a 4.2% loss on the \$17.0 million sold by Abbott and an 8.9% loss on the \$1.7 million sold by Pathway. Losses of 5% or more are not uncommon due to the potential for significant selling pressure when a general partner distributes large stock holdings to limited partners. The ARMB has processes in place to avoid some of the selling pressure, but the portfolio can experience significant volatility none-the-less. Staff reviewed the 2012 sales and is satisfied with the process that was used to liquidate the in-kind distributions.

II. FUNDING POSITION

A. FUNDING POSITION AS OF DECEMBER 31, 2012

The net asset value of the ARMB's private equity portfolio was \$1.6 billion as of 12/31/12, an increase of \$87.2 million from 2011. The private equity portfolio represented 9.2%, close to the recommended target of 9%.

Total Fund Market Value 12/31/12 (\$MM)	\$17,360.0
Target Percent for Private Equity	9.0%
Target Private Equity Allocation	\$1,562.4
Abbott Net Asset Value	\$724.7
Pathway Net Asset Value	740.3
Direct Net Asset Value	130.3
Total Private Equity Portfolio Value	\$1,595.3
Fund Percent 12/31/12	9.2%

Private equity is an illiquid, long-term asset class and the economic environment can significantly affect asset values and cash flows from year-to-year. As a result, private equity has a wide 5% band above and below the ARMB's allocation.

B. PROJECTED FUNDING POSITION 2017 – BASED ON FUNDING MODEL IN APPENDIX I

Projected Fund Market Value Year End 2017 (\$MM):	\$24,050.5
Projected Private Equity Asset Value:	\$1,859.3
Percent of Total Fund:	7.7%

The current recommended long term allocation to private equity is 9% and with the suggested commitment pacing, the ARMB is expected to reach this target over ten years. As illustrated above for 2017, the allocation is expected to dip below the 9% target in the interim due to lower commitment pacing from 2009 through 2012.

C. FUNDING BY STRATEGY

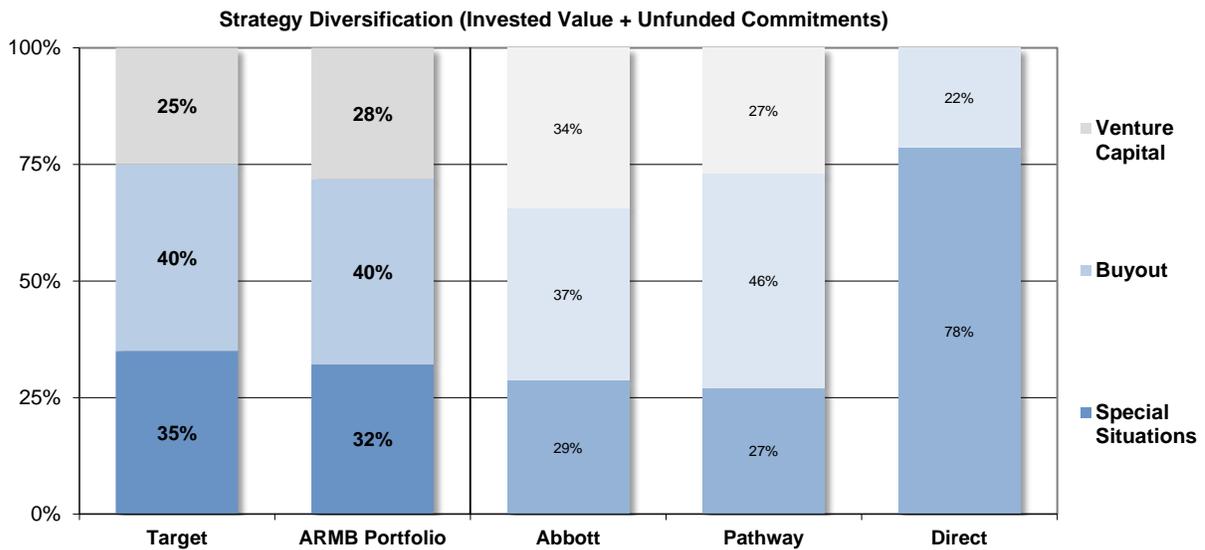
The private equity portfolio has long-term strategy diversification targets with a broad range between minimum and maximum exposure. The portfolio is close to the targets and well within acceptable strategy ranges for 2012.

Strategy	Target	Min	Max	Commitments	Invested Value	Unfunded + Invested Value
Venture Capital	25%	15%	40%	27.2%	26.5%	26.3%
Buyouts	45%	30%	60%	40.0%	41.4%	40.6%
Special Situations/Other	30%	20%	40%	32.8%	32.1%	33.1%
Total	100%			100.0%	100.0%	100.0%

III. DIVERSIFICATION

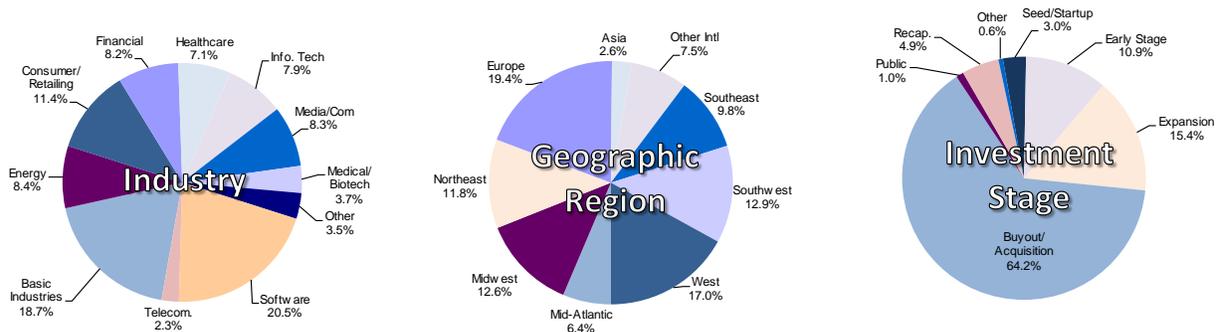
A. INVESTMENT STRATEGY BY PARTNERSHIP AS OF 12/31/2012

As of 12/31/12, the net asset value of the ARMB's private equity portfolio was \$1.6 billion, with Abbott representing 45.4%, Pathway 46.4%, and direct investments 8.2%. The portfolio is well diversified by investment strategy. Both the Abbott and Pathway portfolios are well diversified and the direct partnership portfolio will become more diversified as it matures. Staff expects that long term diversification will be maintained since managers are focused on making new commitments to a diverse set of high quality funds.



B. INDUSTRY, GEOGRAPHIC REGION, AND INVESTMENT STAGE AS OF 9/30/2012

The portfolio is well diversified by industry, with no more than 20.5% of the portfolio concentrated in any one industry. By geography, the portfolio is well diversified within the United States and has strong international exposure at 29.5% of the portfolio. By investment stage, buyout/acquisition is the highest at 64.2% due to the high level of activity by buyout and special situations funds.

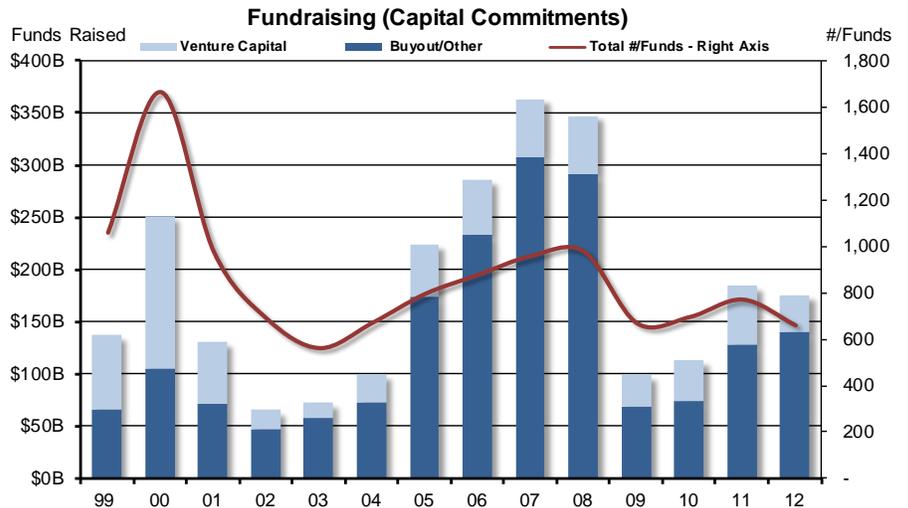


IV. MARKET CONDITIONS

A. 2012 SUMMARY

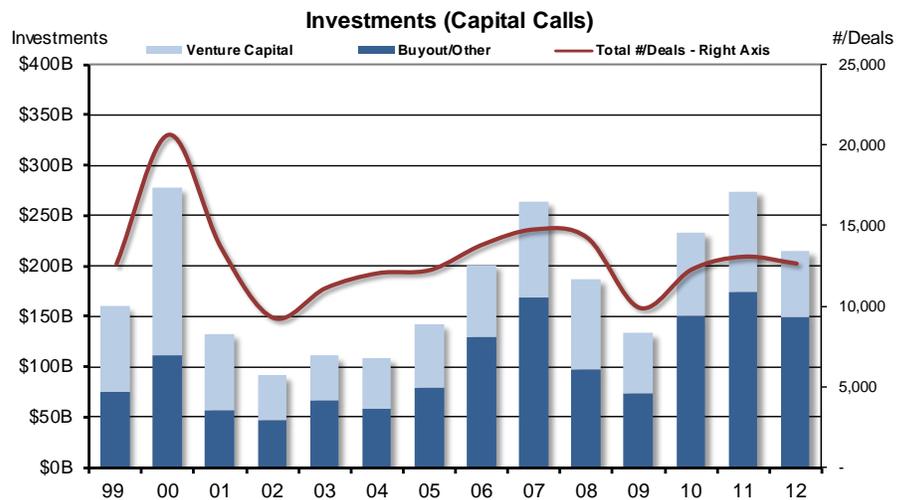
FUNDRAISING

- Fundraising had a modest decline in 2012 and remains significantly lower than peak levels.
- Funds are generally smaller, fundraising takes longer, and terms are more LP friendly.
- There will be a continued reduction in poor performing general partnerships.



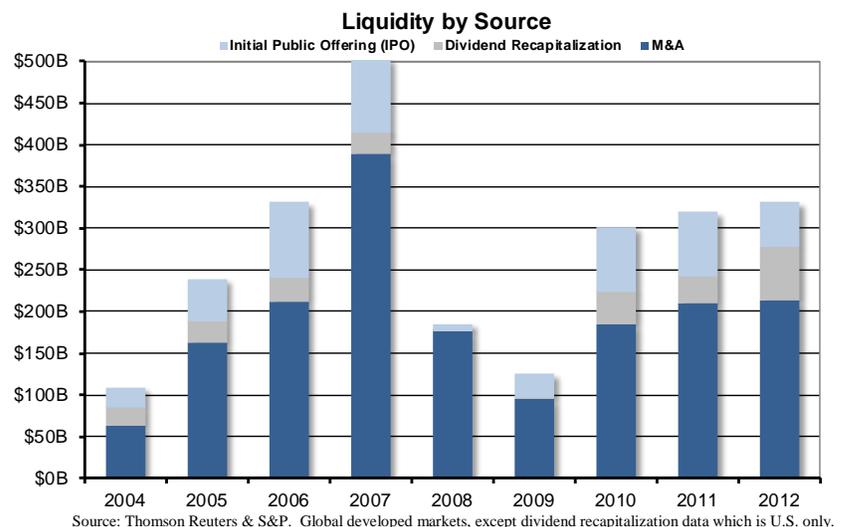
INVESTMENT ACTIVITY

- Investment activity was reasonable, but decreased for both buyout and venture funds since deal pricing was competitive.
- Investment activity remains above fundraising levels – dry powder is declining.



EXIT OPPORTUNITIES

- Overall private equity exit activity was strong.
- Merger and acquisition activity remained strong at \$213 billion.
- The credit markets had a record year and dividend recapitalizations reached an all-time high of \$64 billion.
- Public market exits decreased to \$54 billion due to slow European IPO activity. Facebook was 30% of the total and its poor post-IPO performance had a chilling effect on subsequent IPO's.



Source: Thomson Reuters & S&P. Global developed markets, except dividend recapitalization data which is U.S. only.

B. FORWARD OUTLOOK FOR 2013

Private equity is expected to continue to improve along with increased economic and capital market stability.

- **Reasonable exit environment.** The exit environment for private equity is expected to be strong. Mergers and acquisitions should continue due to high levels of corporate cash, supportive stock market valuations, and largely modest internal growth prospects. The credit markets are accommodative due to yield-driven investors and the public equity market should also be open along with a rising stock market.
- **Measured investment pace.** The investment pace should be measured due to relatively high pricing and increased competition from strategic acquirers, but credit markets are supportive of increased activity and higher deal pricing is a downside risk.
- **Modest fundraising recovery.** Fundraising should recover for tenured groups with strong track records since allocation issues for limited partners have lessened as private equity sponsors return capital and reduce the overhang of un-invested funds.

V. 2013 TACTICAL PLAN

Staff recommends a commitment target of \$355 million for 2013 with an increase in commitment pacing over the next ten years as detailed in Appendix I.

A. TARGET COMMITMENTS FOR 2013

Manager	Target Commitments	Number	Size per Fund	Strategies
Abbott	\$145 million	8-14	\$10-\$30M	Venture capital, buyout, special situations, other
Pathway	\$125 million	8-14	\$10-\$30M	
Direct Investments	\$85 million	2-4	\$10-\$50M	
Total	\$355 million	18-32	\$10-\$50M	

Abbott and Pathway have the ability to commit up to 10% beyond their target allocation with CIO approval to access additional opportunities. The chief investment officer also has the delegated authority to commit up to \$50 million in addition to the targeted amount for direct partnership investments.

B. TARGET STRATEGIES FOR 2013

The investment opportunities are expected to be balanced by strategy and by the ARMB's other diversification guidelines. **The absolute quality of the underlying manager continues to be more important than strict adherence to diversification characteristics.** The manager specific tactical plans for Abbott and Pathway follow in Appendix II and III.

APPENDIX I – PRIVATE EQUITY FUNDING PROJECTIONS

Private Equity Funding Schedule	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Beginning Fund Assets (\$MM)	15,650,932	17,360,041	18,449,319	19,690,936	21,124,228	22,591,286	24,050,476	25,501,679	26,935,832	28,331,470	29,690,364
Fund Net Growth Rate	10.9%	6.3%	6.7%	7.3%	6.9%	6.5%	6.0%	5.6%	5.2%	4.8%	4.4%
Additions from Net Fund Growth	1,709,109	1,089,278	1,241,617	1,433,292	1,467,058	1,459,190	1,451,203	1,434,153	1,395,638	1,358,895	1,317,125
Ending Fund Assets	17,360,041	18,449,319	19,690,936	21,124,228	22,591,286	24,050,476	25,501,679	26,935,832	28,331,470	29,690,364	31,007,489
Target Private Equity %	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%	9.0%
Private Equity Asset Value Target	1,562,404	1,660,439	1,772,184	1,901,180	2,033,216	2,164,543	2,295,151	2,424,225	2,549,832	2,672,133	2,790,674
Asset Value by Manager (\$MM)											
Abbott	724,678	708,378	693,944	682,562	673,035	674,169	686,898	709,415	759,541	812,110	865,600
Pathway	740,276	742,295	737,376	733,502	740,013	760,398	799,006	853,877	911,741	975,960	1,045,859
Direct Investments	130,251	170,776	219,236	277,014	346,202	424,731	517,511	615,839	705,426	792,197	873,928
Total Projected Asset Value	1,595,205	1,621,449	1,650,557	1,693,078	1,759,250	1,859,298	2,003,416	2,179,131	2,376,708	2,580,267	2,785,387
Private Equity % of Fund	9.2%	8.8%	8.4%	8.0%	7.8%	7.7%	7.9%	8.1%	8.4%	8.7%	9.0%
Annual Commitments (\$MM)											
Abbott	114,607	145,000	154,000	163,000	173,000	183,000	194,000	206,000	218,000	231,000	245,000
Pathway	117,489	125,000	125,000	155,000	164,000	174,000	184,000	195,000	207,000	219,000	232,000
Direct Investments	30,000	85,000	95,000	105,000	115,000	125,000	133,000	141,000	149,000	158,000	167,000
Total Commitments by Year	262,096	355,000	374,000	423,000	452,000	482,000	511,000	542,000	574,000	608,000	644,000

NOTES ON FUNDING PROJECTION MODEL

- The Fund projected net growth rates are based on actuarial projections adjusted for actual 12/31/12 Fund values.
- Investment commitment drawdowns are modeled over a nine-year period with the majority of the drawdowns occurring over the first four years.
- Returns of capital and gains are modeled over a twelve-year period, with less than 10% of the distributions occurring during the first three years of a partnership.
- Unrealized gains are based on the ARMB's private equity benchmark (Russell 3000 + 350 basis points). Gains are harvested after four years and are adjusted to actual portfolio values.
- Commitments are scheduled at a pace to achieve the ARMB's long term private equity allocation and preserve vintage year time diversification.

Abbott Capital Management Annual Tactical Plan

I. 2012 INVESTMENT ACTIVITY

A. 2012 Fund Commitments

On behalf of ARMB, Abbott made nine new primary commitments, one follow-on primary commitment and purchased three secondary interests in 2012. In total, ARMB committed \$120.6 million in 2012 versus the target of \$140 million.

1. Primary Activity

In 2012, Abbott closed on 10 primary commitments totaling \$114.6 million on ARMB’s behalf as listed below:

Primary Fund Commitments: 2012		
Fund	Strategy	Commitment
Canaan IX	VC – Early Stage	\$9.0 million
New Enterprise Associates 14	VC – Balanced	20.0 million
ChrysCapital VI	Growth Equity – India	5.0 million
Summit Partners Venture Capital Fund III*	Growth Equity	6.7 million
Advent International GPE VII-B	Buyout – Medium – Europe and N.A.	20.0 million
Archer Capital Fund 5**	Buyout – Medium – Australia	3.2 million
ISIS V**	Buyout – Small – U.K.	9.7 million
ABRY Senior Equity IV	Special Situations – Subordinated Debt	5.0 million
EnCap Energy Capital Fund IX	Special Situations – Industry Focus	16.0 million
Warburg Pincus Private Equity XI	Special Situations – Hybrid	20.0 million
		\$114.6 million

*ARMB made an initial commitment to Summit Partners Venture Capital Fund III in 2011. The \$6.7 million commitment listed above represents a follow-on commitment made and closed in 2012.

**Commitments to Archer Capital Fund 5 and ISIS V were A\$3,100,000 and £6,000,000, respectively. Commitments with respect to Partnerships denominated in non-U.S. currency reflect the amount funded (in U.S. dollars) plus the unfunded portion of the foreign-denominated commitment amount converted to U.S. dollars at the relevant December 31, 2012 exchange rates.

2. Secondary Activity

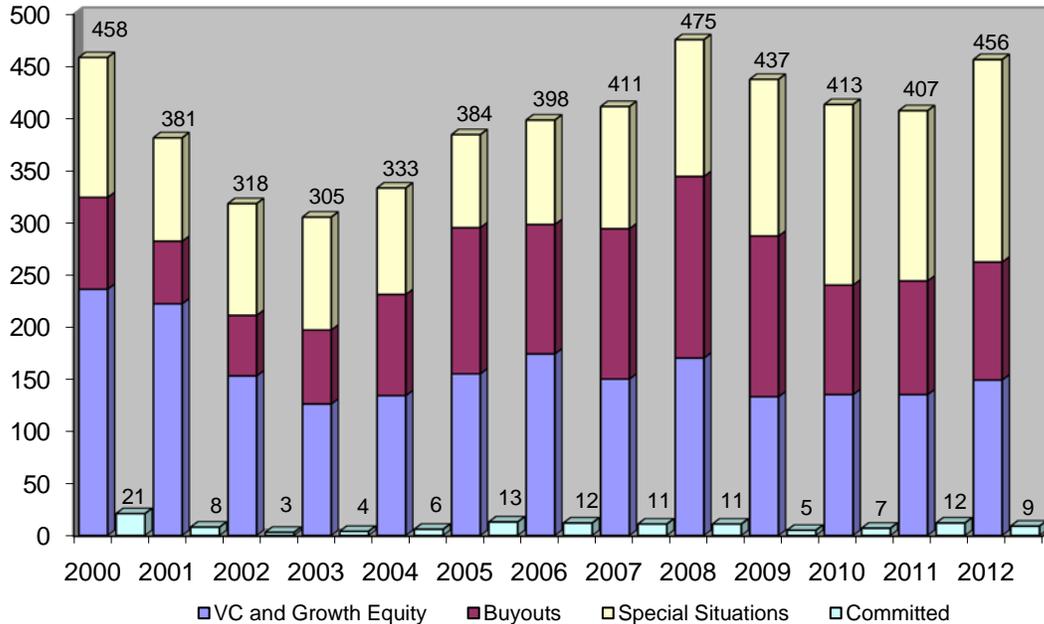
In 2012, Abbott committed to three secondary opportunities on behalf of ARMB: **Summit Partners Private Equity Fund VII, TA X and The Resolute Fund**. In addition, Abbott closed on the purchases of **Advent International GPE V** and **Oak Investment Partners XII**, which ARMB originally committed to acquire at the end of 2011.

Secondary Commitments: 2012		
Fund	Strategy	Max. Cash Outlay*
Summit Partners Private Equity Fund VII	Growth Equity	\$ 2.2 million
TA X	Growth Equity	0.4 million
The Resolute Fund	Buyout – Medium	3.4 million
		\$6.0 million

* Max. Cash Outlay = purchase price + unfunded commitments at the time of purchase.

B. Deal Flow

Abbott reviewed 456 primary fund opportunities across all categories in 2012 which represents the second highest level of deal flow since 2000. Abbott committed to nine of these funds on behalf of ARMB in addition to one follow-on commitment.



II. ARMB PORTFOLIO REVIEW

A. Review and Analysis of ARMB's Program Activity

From the inception of ARMB's private equity program in 1998 through December 31, 2012, Abbott has committed \$1.76 billion to 151 private equity funds through primary commitments across the three broad categories of diversification (venture capital and growth equity, buyouts and special situations). ARMB's average commitment amount to these partnerships is approximately \$11.6 million. To date, Abbott has been notified that three of these partnerships, El Dorado Ventures V, Phildrew Ventures Fifth Fund and Thomas H. Lee Equity Fund IV, were fully liquidated during 2012. ARMB has also purchased 18 secondary commitments to 15 funds totaling \$20.3 million in max cash outlay. As of December 31, 2012, ARMB has cumulatively made 169 partnership investments representing \$1.78 billion in primary commitments and secondary maximum cash outlay.

Abbott believes that ARMB's portfolio should be able to achieve the year-end 2017 Net Asset Value Target of \$674.2 million through continued deployment of capital over the next four tactical plan periods. At December 31, 2012, the active portfolio was valued at \$724.3 million, including a pooled partnership net asset value of \$723.4 million and \$0.9 million of publicly-traded stock held by ARMB as of December 31, 2012.¹ Note that ARMB's partnership holdings were valued at the September 30, 2012 fair value adjusted solely for partnership cash flows through year-end. Actual values as of December 31, 2012 will differ from those reported above. The year-end 2012

¹ The pooled portfolio value for the ARMB account included herein is based on the aggregate portfolio fund values as of September 30, 2012, adjusted by all cash flows through December 31, 2012, plus the value of distributed stock not yet sold as of December 31, 2012. Pursuant to the request of ARMB, ARMB receives an expedited statement on the last business day of each month, and therefore, the pooled portfolio value reported by ARMB elsewhere in this report reflects an estimated year-end pooled portfolio value based on portfolio fund values as of September 30, 2012, adjusted solely for cash flows through December 28, 2012 and the value of distributed stock not yet sold as of December 28, 2012.

Net Asset Value (including distributed stock pending sale or settlement) of \$724.3 million is approximately \$50.2 million above ARMB's stated 2017 target. As evidenced in prior years, investment activity combined with valuation changes may cause the portfolio to be somewhat over or under its target allocation depending on the economic cycle. However, provided that the portfolio experiences a consistent level of commitments and distributions, ARMB's private equity funding projections suggests that the Net Asset Value will remain near its targeted level as the portfolio matures.

B. Portfolio Performance

The ARMB cumulative Net IRR since inception, net of investment management fees paid by ARMB to Abbott, was 8.7% as of September 30, 2012.² Although private equity is an asset class that should be measured over the long term, ARMB's one-year return on the portfolio, net of investment management fees paid by ARMB to Abbott, was 14.4% as of September 30, 2012.

ARMB's long-term performance as of September 30, 2012 is also favorable when compared to various public indices in a public market equivalent ("PME") calculation. Through September 30, 2012, the long-term performance of the ARMB program outperformed the S&P 500 and Russell 3000 by 490 and 430 basis points, respectively, according to Abbott's public market equivalent analysis.

As of September 30, 2012	Performance	Outperformance
ARMB Net IRR (net of Abbott fees)	8.7%	N/A
PME Benchmark (S&P 500)	3.8%	4.9%
PME Benchmark (Russell 3000)	4.4%	4.3%

III. GENERAL MARKET OVERVIEW

A. Venture Capital and Growth Equity

U.S. venture capital and growth equity fundraising and investment activity continued to stabilize during 2012. According to Thomson Reuters and the NVCA, including the \$20 billion raised by U.S. venture capital and growth equity firms in 2012, the industry has raised less than \$25 billion each year since 2008. In addition, the venture industry is bifurcating into large funds and small specialized funds. In fact, new venture capital commitments were concentrated in the 10 largest funds, which comprised 50% of the fundraising total for the entire year. This development, along with less capital raised versus invested industry-wide over the past few years, further illustrates the ongoing contraction of the industry.

Investments by U.S. venture capitalists totaled \$27 billion in 2012, which was 10% lower than last year's total, but on par with the average level of investment since 2000. The anticipation of Facebook's IPO led to a peak in investments in the second quarter. Unfortunately, Facebook's poor trading performance as well as the price declines of other well-known publicly-traded Internet securities engendered a sense of caution amongst investors in subsequent quarters. Overall, investments declined in almost all sectors in 2012 compared to the prior year. Life sciences investments declined as a strict regulatory environment and changes to the reimbursement system continued to challenge the sector, while cleantech declined as the sector was marred by large, notable failures in the space given these companies' inability to effectively commercialize their technologies. Software was one of the few bright spots in a down year and continued to be the industry's favorite sector, reaching a level of investments unseen since 2001. While most sectors experienced modest declines compared to the prior year, overall investments were still within the \$20-30 billion range that has been invested over the past decade.

Although venture-backed investments and fundraising appeared to be range-bound, liquidity continued to trend upward in 2012. Overall exit activity by U.S. venture capital and growth equity funds, which includes IPOs and M&A, totaled \$43 billion in 2012. Notably, however, a large portion of the proceeds (\$16 billion) was driven by the IPO of Facebook. While an offering that large would be difficult to repeat, it should not be ignored as venture capital funds depend on outsized home runs to generate meaningful returns. M&A volume was in line with the

² This return is calculated net of Abbott's investment management fees, and was calculated using the fair value of ARMB's portfolio as of September 30, 2012 and quarterly partnership cash flows since inception through September 30, 2012.

average over the past five years, though corporate buyers' heightened wariness following the stock price declines of several high-profile, venture-backed Internet companies may have contributed to the declining number of acquisitions.

B. Buyouts and Special Situations

According to Thomson Reuters, global buyout and special situations firms raised \$190 billion in 2012, nearly matching the amount of capital raised in 2011. The fundraising totals were driven by a 23% increase in capital raised by U.S.-domiciled firms, which buoyed declines across most other geographies. At the same time, Europe and Asia fundraising were both down approximately 30%, as the sovereign debt crisis in Europe and the economic slowdown in Asia appeared to impact the pace of limited partner capital commitments. Mega-buyout funds in the U.S., defined as funds raising more than \$5 billion, collected \$32 billion in commitments, triple the amount of assets raised by similar-sized funds in 2011.

Global buyout investment activity in 2012 decreased year-over-year, although the number of deals and amount invested remained well in excess of levels witnessed during and immediately following the credit crisis and Great Recession. According to Thomson Reuters, \$149.5 billion of equity was invested in 3,871 investments during 2012, compared with \$169.6 billion invested in 3,525 deals and \$143.9 billion invested in 3,306 deals in 2011 and 2010, respectively. Moreover, transaction activity in most major world regions increased meaningfully during the second half of the year when compared to the prior six months given the easing of European sovereign debt crisis concerns and re-opening of the U.S. credit markets. The fourth quarter in particular saw a flurry of activity at the medium-to-large end of the market as investors appeared keen on completing transactions before the end of the year given the potential tax rate changes set to take effect in 2013. Buyout and special situations firms completed 19 transactions of \$1 billion or more in the last three months of 2012, which accounted for more than half of the year's total.

Global M&A exit activity by buyout and special situations funds of \$146 billion in 2012 also represented a modest decline from the prior year. At the same time, however, credit markets had a record year in 2012 as global high yield and investment grade debt issuances reached all-time highs. As a result, according to Standard & Poor's, dividend recap volume climbed to a record \$77 billion in 2012, a 36% increase from the prior year, with more than one-third paid in the fourth quarter. On the other hand, the IPO market was not conducive to buyout-backed liquidity in 2012. While the venture capital and growth equity segment benefited from one of the largest IPOs in history, buyout and special situations firms only had one IPO that raised over \$1 billion in 2012 compared to five in 2011. In total, buyout and special situations-backed companies that went public on U.S. exchanges raised \$9 billion in 2012, which was only half the amount of the prior year.

C. Secondary Activity

According to Cogent Partners January 2013 Secondary Pricing, Trends & Analysis report, secondary transaction volume remained relatively robust in 2012 at \$25 billion, which was essentially on par with the prior year and the third consecutive year that secondary transaction volume surpassed \$20 billion. From a pricing perspective, market dynamics remained relatively consistent year-over-year, although noticeable discrepancies persisted across strategies. Discounts for buyout funds remained less than their venture counterparts during 2012, as average high bids of buyout funds in the first and second half of the year were 85% and 84% of NAV, respectively, compared with venture high bids averaging 74% and 70% of NAV during the same time period. In terms of partnership maturity, following a trend that began in early 2009, the largest percentage of secondary transactions in the buyout segment was the sale of funds from the pre-recession-2006 vintage year. In contrast, venture capital transactions were driven by the sale of older funds, with Cogent estimating that over two-thirds of venture fund secondary sales in the second half of 2012 were comprised of partnerships more than 10 years old.

Going forward, there continues to be a significant amount of capital targeting secondary strategies. Per the aforementioned report, Cogent estimated that there remains over \$35 billion of dedicated dry powder for secondary investments, which should be noted excludes investors like Abbott that opportunistically seek to make secondary purchases. From a supply perspective, deal flow should remain relatively strong given the ongoing portfolio rebalancing of many foundations, endowments, financial institutions and public pensions. As a result, it appears 2013 is expected to be an active year for secondary market participants, although it should be noted that broader market volatility can impact pricing dynamics, and thus the ability of buyers and sellers to consummate transactions.

IV. DIVERSIFICATION

Strategy	Estimated 12/31/12 NAV	Year-End 2017 Target	Difference
Venture Capital and Growth Equity	\$254,026,528	\$168,542,250	(\$85,484,278)
Early	71,994,444	\$33,708,450	(\$38,285,994)
Multi	132,320,683	\$67,416,900	(\$64,903,783)
Late	49,711,400	\$67,416,900	\$17,705,500
Buyouts	258,009,215	\$269,667,600	\$11,658,385
Restructuring	918,018	\$16,854,225	\$15,936,207
Special Situations	181,302,558	\$202,250,700	\$20,948,142
Subordinated Debt	14,503,031	\$16,854,225	\$2,351,194
Secondary Interests	14,657,832	NA	NA
Distributed Stock Currently Held	909,589	NA	NA
Total	\$724,326,770	674,169,000	N/A

A. Venture Capital and Growth Equity

ARMB has accumulated a well-diversified portfolio of 61 venture and growth equity funds (not including 14 secondary commitments to existing funds). Abbott will continue to identify opportunities to build on ARMB's existing relationships with top-performing groups while selectively pursuing relationships with high-quality groups not currently in the ARMB portfolio.

B. Buyout and Special Situations

ARMB has a well-diversified portfolio of 81 buyout and special situation partnerships (not including three secondary commitments to existing funds). Abbott will continue to develop relationships with strong performing groups and selectively seek high-quality firms that can augment the ARMB portfolio and add incremental diversification. We anticipate a relatively flat year in terms of buyout and special situations commitments as the broader fundraising pipeline appears to consist of larger funds and small, specialized managers. As mentioned in prior correspondence, Abbott now combines the buyout and special situations partnerships into one reporting category. Note, however, that we will continue to identify each partnership as either a buyout or special situation fund within our internal systems to ensure that we effectively monitor portfolio diversification.

C. International

ARMB's Private Equity Partnerships Portfolio Policies and Procedures provide target ranges for the eligible investment strategies. Global/International is currently allocated a range of up to 35%. In 2012, ARMB made commitments to four international partnerships: **ChrysCapital VI**, an Indian growth equity fund; **Archer Capital Fund 5**, an Australian buyout fund; **ISIS V**, a U.K.-based lower mid-market focused fund; and **Advent International GPE VII**, a global upper-middle market buyout fund.

V. MONITORING

Specific Situations Being Monitored

Abbott has made 169 commitments (primary and secondary) to 151 partnerships on behalf of ARMB, 142 of which were active as of December 31, 2012. Abbott actively monitors these funds on an ongoing basis.

Among the partnership groups in ARMB's portfolio, many have advisory or valuation committees. Abbott serves on a majority of these committees, which generally meet formally two to four times per year. Abbott also seeks to attend each annual meeting held for partnerships in the ARMB portfolio. Abbott regularly visits general partners in their offices as part of our ongoing due diligence, and general partners frequently visit Abbott to provide us with updates. Outside of formal meetings, Abbott speaks to general partners on a regular basis to deepen our understanding of the portfolio investments as well as the dynamics of the general partner groups. This process enables Abbott to make informed decisions regarding whether groups in the portfolio should be supported in the

future. Abbott has periodic conference calls with ARMB staff to review and discuss current issues affecting the portfolio.

VI. EXITING

A. Pending Distributions or Liquidations

As discussed below, ARMB's portfolio experienced a material increase in distributions in 2012 when compared to distribution activity in 2011. Given increased economic stability and the continuing availability of abundant, attractively-priced credit, we believe 2013 may also be a strong year for distributions for ARMB.

B. Any Other Relevant Considerations Relating to Exiting ARMB's Investments

In 2012, ARMB received cash distributions of \$160.4 million compared to \$140.8 million received in 2011. During 2012, ARMB also received securities valued at \$17.8 million with a cost basis of \$2.8 million. Distributed stock liquidated in 2012 (including distributed stock held as of December 31, 2011 pending settlement) was converted into net cash proceeds of \$16.3 million during 2012. In aggregate, ARMB ultimately received \$176.7 million in net cash proceeds³ resulting from 2012 transaction activity, representing an approximate \$30 million increase over the net proceeds received in 2011.

VII. 2013 GOALS AND STRATEGY

Candidates Abbott is Aware of and/or Planning to Pursue

Abbott will continue to review partnerships that meet the guidelines of ARMB's strategic portfolio structure across all three broad categories of diversification. We anticipate several top-tier venture capital and growth equity, buyout and special situations groups currently in ARMB's portfolio will return to the market to raise fresh capital in 2013. Abbott expects new quality partnership opportunities will also arise, which will selectively be added to ARMB's portfolio mix. Whether a new or existing relationship, we will continue to apply our rigorous due diligence process to each opportunity.

Abbott will continue to focus on larger dollar commitments to top-tier private equity partnerships. It should be noted, however, that access to high-quality funds is frequently a significant barrier for limited partners, particularly those new to the asset class. As such, Abbott recommends that ARMB remain flexible with respect to commitment sizes, which will provide the portfolio the widest possible access to high-quality private equity partnerships. Subject to an acceptable pipeline of opportunities, Abbott will seek to prudently commit capital on ARMB's behalf at an average annual level of \$163.6 million over the next five years. We note, however, that the fundraising market is cyclical and no assurances can be made that the stated commitment goals will be attained in any given year.

Year-to-date, ARMB has committed and closed on a total of \$15.7 million to **Battery Ventures X, Battery Ventures X Side Fund** and **LLR Equity Partners IV**. ARMB's maiden commitment to Battery Ventures, a multi-stage venture firm focusing on early stage to buyout investments of technology companies, was to Battery Ventures VII, a 2004 vintage fund. The Side Fund will allow for additional capital to be deployed in some of the firm's larger growth and buyout transactions. LLR Equity Partners IV represents ARMB's first commitment to this Philadelphia-based firm. LLR focuses on growth investments in the business, financial, consumer & education and software & IT service industries.

³ Net of related brokerage commissions, fees and expenses and any gain or loss realized upon the sale of distributed stock.

VIII. SUMMARY

Overall, 2012 was a strong year for private equity-backed liquidity given the continued stabilization of the U.S. economy, improved pricing dynamics and robust credit markets. As a result, ARMB received total distributions of \$178.2 million during the past year, which represented a 20% increase in distributions from 2011, which itself was 36% higher than the level of distributions in 2010. This increase in distribution activity helped generate a 34 basis point increase in ARMB's total estimated year-end 2012 pooled portfolio IRR, to 8.8%, from year-end 2011. At the same time, year-over-year private equity investment and fundraising activity was essentially flat in 2012. Fundraising in particular remained a relatively challenging endeavor for many general partners as fundraising periods have lengthened while average fund sizes have fallen. Abbott ultimately closed on 10 primary fund commitments on ARMB's behalf during the year that totaled \$114.6 million in commitments.

In 2013, Abbott will continue developing ARMB's strategic portfolio with a focus on committing larger dollar amounts to top-tier private equity partnerships, while retaining the flexibility to commit lesser amounts to certain opportunities should the situation warrant. Additionally, Abbott will continue to remain active in the secondary market where attractive pricing provides the opportunity for boosting returns and increasing vintage year diversification. As always, Abbott will maintain its rigorous selection criteria with the goal of building a high-performing, diversified portfolio across venture capital and private equity.

Pathway Capital Management Annual Tactical Plan**Pathway Portfolio Overview**

From the inception of the Pathway/ARMB private equity program in 2002 through December 31, 2012, Pathway committed \$1.4 billion to 104 private equity partnerships across 50 managers on behalf of the Alaska Retirement Management Board (ARMB). Of the \$1.4 billion committed, \$1.1 billion, or 79% of total commitments, had been contributed, and \$743 million had been received in distributions, as of year-end 2012. The portfolio has produced a total value of \$1.5 billion, which represents 138% of cumulative contributions, and has generated a since-inception net IRR of 11.9%, as of the same date.¹

The portfolio's strong performance continued in 2012: all four of the portfolio's core strategies and all 11 of its vintage years older than one year posted positive results during the year. For the 1-year period ended December 31, 2012, the private equity portfolio generated a gain of \$72.3 million and a return of 10.1%. The portfolio generated positive returns in all four quarters of the year and has now generated positive returns in 14 of the past 15 quarters, which has resulted in \$316.8 million in gains and a 340-basis-point improvement in the portfolio's since-inception net IRR since March 31, 2009.

Driven by a robust M&A market, improving economic conditions, and accommodative credit markets, contribution and distribution activity remained strong in 2012, with distributions reaching a record level. During the year, ARMB contributed \$120.7 million, a modest decline (6% decrease) from the \$128.3 million contributed in 2011, and received distributions of \$185.4 million, a 34% increase from the then-record \$138.7 million received in 2011. Distribution activity was strong throughout the year, with the second, third, and fourth quarters each ranking among the top-four quarters for distributions since the program's inception. As a result of this strong distribution activity, distributions outpaced contributions by \$64.7 million in 2012, the second consecutive year the program has generated positive net cash flow.

2012 Review**Commitments**

Table 1 provides a summary of 2012 commitment activity by investment strategy compared with the 2012 Tactical Plan allocation targets. Pathway continued to maintain its rigorous due diligence process and selective investment criteria during 2012, reviewing 451 partnership opportunities before ultimately selecting 12 to be included in the ARMB portfolio. As shown in the table, Pathway committed \$117.5 million on behalf of ARMB in 2012 and was within the target ranges for the buyouts, venture capital, and special situations investment strategies and slightly outside the target range for the restructuring investment strategy. Pathway, in consultation with ARMB investment staff, elected to exceed the restructuring strategy target range in 2012 to support three existing distressed debt managers that returned to the fundraising market in 2012 and to make a small, opportunistic purchase of a secondary interest in a distressed debt partnership. Pathway did not identify any distressed debt opportunities that met its investment criteria in the 2010 and 2011 calendar years.

1. Note: Performance is based on September 30, 2012 market values adjusted for cash flows through December 31, 2012. Returns do not include any appreciation or depreciation in market value that occurred during the fourth quarter of 2012. As of September 30, 2012, the program had a since-inception net IRR of 12.4%.

Table 1. ARMB's 2012 Private Equity Activity vs. 2012 Annual Tactical Plan

Investment Strategies	2012 Plan		2012 Actual	
	No. of Partnerships	Total Commitments	No. of Partnerships	Total Commitments
Buyouts	Up to 6	Up to \$85 million	2	\$30.0 million
Venture Capital	Up to 6	Up to \$70 million	5	\$45.5 million
Special Situations	Up to 3	Up to \$30 million	1	\$10.0 million
Restructuring	Up to 3	Up to \$30 million	4	\$31.9 million
Subordinated Debt	None	None	–	–
Total	Up to 14	Up to \$125 million	12	\$117.5 million

NOTE: Amounts may not foot due to rounding.

Commitment activity was spread across all four of the portfolio's core strategies. During 2012, ARMB committed the largest portion of its capital to venture capital partnerships: \$45.5 million was committed to five managers, two of which (Holtzbrinck V and Mayfield XIV) represent new relationships for ARMB. Restructuring/distressed partnerships accounted for the second-largest portion of 2012 commitment activity, with \$31.9 million in total commitments. ARMB committed \$30.0 million to three existing distressed debt managers and made a secondary commitment of \$1.9 million to an existing manager.

ARMB committed a total of \$30.0 million to two buyout-focused partnerships during the year: Carlyle VI, an existing manager relationship, and Advent VII, a new manager relationship. In terms of geographic segmentation, Carlyle VI will focus on opportunities in the United States and Advent VII will focus on opportunities both in the United States and Europe. Also during the year, ARMB committed \$10.0 million to EnCap IX, an existing special situation manager that focuses on the oil and gas industry.

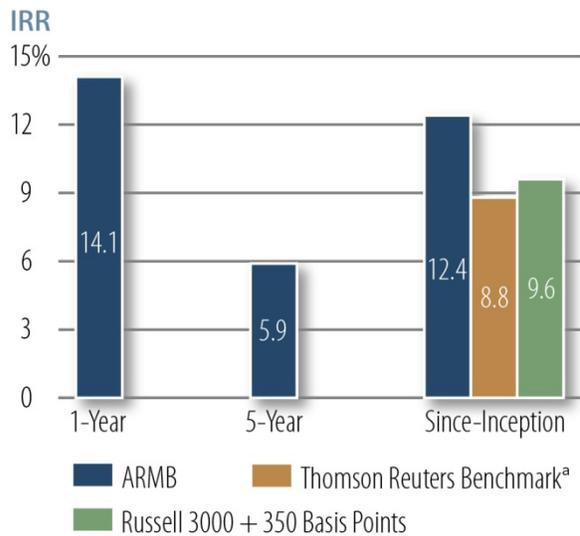
Performance

The ARMB portfolio performed well during the 1-year period ended December 31, 2012, generating gains in all four quarters of the year and posting a total 1-year net gain of \$72.3 million and a 1-year return of 10.1% (in 2011, the 1-year gain was \$61.6 million and the 1-year return was 9.2%). The portfolio's strong performance was broad-based: 70 of the portfolio's 98 active partnerships as of December 31, 2012, generated net gains during the 1-year period, of which 21 had generated gains in excess of \$1.0 million.

All four of the portfolio's core strategies generated positive returns, the third-consecutive year in which all four strategies contributed to the positive return of the portfolio. Performance in 2012 was led by the portfolio's buyout partnerships, which collectively generated \$38.3 million in gains and a return of 11.1% for the 1-year period ended December 31, 2012. The portfolio's restructuring and venture capital strategies also performed particularly well in 2012, generating double-digit 1-year returns of 11.2% and 12.5%, respectively. On a vintage year basis, 11 of the portfolio's 12 vintage years posted gains during the year, the immature 2012 vintage year being the only vintage to post a loss. In aggregate, the 2005–2008 vintage years accounted for \$55.0 million, or 76%, of the portfolio's total 1-year gains.

The long-term performance of ARMB’s private equity portfolio remains strong and continues to compare favorably with its public and private equity benchmarks. As shown in figure 1, the ARMB portfolio’s since-inception performance exceeds the portfolio’s public benchmark (Russell 3000 plus 350 basis points) on a dollar-weighted basis by more than 270 basis points. In addition, the portfolio outperforms the Thomson Reuters pooled horizon returns for 2001- through 2012-vintage private equity funds by 360 basis points. At the partnership level, the portfolio’s mature vintages (2001–2007) continue to perform well: six of the seven generations exceeded their upper quartile vintage year benchmarks, and all seven generations exceeded their median benchmarks, as of September 30, 2012.

Figure 1. ARMB Performance vs. Private and Public Market Benchmarks
As of September 30, 2012

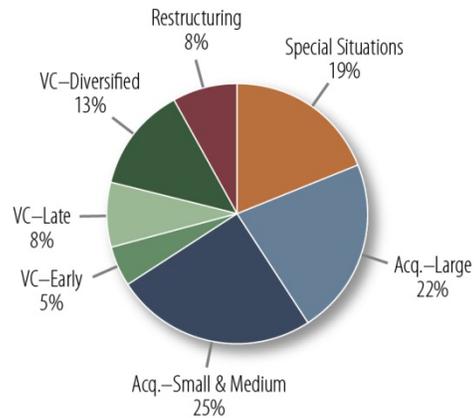


^aThomson Reuters All Regions All Private Equity pooled horizon returns for 2001- through 2012-vintage funds, as of September 30, 2012 (the most-recent data available).

Diversification

One of Pathway’s objectives in constructing the ARMB private equity portfolio is to reduce risk by ensuring that the portfolio is well diversified across various metrics, including time, investment strategy, industry, geographic region, and investment manager. Pathway believes that ARMB’s portfolio is currently well diversified: the portfolio consists of 104 partnerships across 13 vintage years and 50 managers and contains more than 1,600 underlying portfolio companies, as of December 31, 2012. Figure 2 illustrates the current diversification of ARMB’s private equity portfolio by investment strategy at the partnership level, based on partnership market value plus unfunded commitments through December 31, 2012.

Figure 2. Investment Strategy Diversification



NOTE: Based on partnership market values and unfunded partnership commitments through December 31, 2012.

Buyouts & Special Situations

By design, acquisition partnerships account for the largest portion of the ARMB portfolio, representing 47% of total exposure (partnership market value plus unfunded commitments). This exposure is near the midpoint of the recommended target range of 30%–60%. The portfolio currently consists of 43 acquisition partnerships, split between 23 partnerships that target small- and mid-cap companies and 20 partnerships that target large-cap companies (i.e., companies with enterprise values of more than \$1 billion). The acquisitions strategy is further diversified by transaction type, industry, and regional focus. Fourteen of the portfolio’s acquisition partnerships focus primarily on investments in Western European

countries. Pathway committed \$30.0 million to two acquisition funds during 2012: \$15.0 million to Carlyle VI (an existing manager relationship) and \$15.0 million to Advent VII (a new manager relationship).

ARMB's special situation investments are also within Pathway's recommended target range, representing 19% of total exposure. The special situations strategy consists of 21 partnerships of varying sizes and areas of focus, including 12 industry-focused partnerships, seven partnerships that utilize multiple investment strategies, and two partnerships that specialize in turnaround opportunities. During the year, Pathway added one special situation partnership to the ARMB portfolio—Encap IX, an existing manager relationship—to which Pathway committed \$10.0 million.

In 2012, the portfolio's buyout and special situation partnerships collectively generated \$42.3 million in gains, which accounted for 59% of the portfolio's total gains for the year, and posted a combined 1-year return of 9.1%. Distribution activity was strong across both strategies, the buyout strategy achieving the highest annual total since the inception of the program. During the 2012 calendar year, the portfolio's acquisition partnerships distributed \$108.4 million, a 53% increase over the 2011 distribution total. The portfolio's special situation partnerships distributed \$26.6 million during this time period, a 14% decrease from 2011's record distribution total of \$31.0 million but still the second-highest annual total for the strategy in the history of the program. The long-term performance of ARMB's buyout and special situation partnerships remains attractive, collectively generating a 5-year return of 3.6% and a since-inception return of 11.5%.

Venture Capital

The ARMB portfolio currently comprises 27 venture capital partnerships, which utilize a variety of early-, late-, and multistage investment strategies. As of December 31, 2012, these partnerships represented 26% of the portfolio's total exposure, which was comfortably within Pathway's recommended target range of 15%–40%. Consistent with prior years, Pathway continued to focus on selectively adding new managers and increasing commitments to existing managers, committing \$45.6 million to five venture capital partnerships during the year: \$15.0 million to NEA 14 (an existing manager relationship), \$13.5 million to IVP XIV (an existing manager relationship), \$10.0 million to Canaan IX (an existing manager relationship), €3.7 million (\$4.8 million) to Holtzbrinck V (a new manager relationship), and \$2.3 million to Mayfield XIV (a new manager relationship).

The portfolio's venture capital partnerships performed well in 2012, posting a return of 12.5% for the 1-year period ended December 31, 2012. This performance was led by the portfolio's investment in JMI V, which generated a 1-year return of 277.0%, as well as by four additional venture capital partnerships that generated double-digit 1-year returns. Distribution activity remained strong and increased to a record level in 2012. A total of \$28.8 million was received during the year, which represents a 35% increase from the strategy's previous record amount of \$21.4 million received in 2011. The strategy continues to demonstrate solid long-term performance: 5-year and since-inception returns were 9.6% and 10.5%, respectively.

Restructuring

The ARMB portfolio currently comprises 13 distressed debt partnerships, which utilize trading and control-oriented strategies. These partnerships, which account for 8% of the portfolio's total exposure, target debt or other securities of distressed or troubled companies and are generally less correlated to traditional buyout and venture capital investments. During 2012, Pathway committed \$31.9 million to four restructuring/distressed debt partnerships—\$10.0 million to Centerbridge Special Credit II, \$10.0 million to OCM IX, \$10.0 million to Wayzata III, and a \$1.9 million secondary commitment to Wayzata II—all of which represent existing manager relationships.

ARMB's distressed debt partnerships generated an 11.2% return over the year ended December 31, 2012. Distribution activity was also strong: \$21.5 million was received during 2012, which represents a 41% increase from 2011 and the strategy's highest annual distribution total since the inception of the program. The restructuring strategy continues to deliver outstanding long-term performance, generating a 5-year return of 11.9% and a since-inception return of 21.4%.

International

Pathway has diversified ARMB's portfolio by geographic region by committing to partnerships that target a variety of regions outside the United States. The international portfolio currently comprises 16 partnerships: 14 acquisition partnerships, one special situation partnership, and one venture capital partnership. As of December 31, 2012, the portfolio's international exposure accounted for 13% of total exposure and was comfortably within Pathway's recommended long-term allocation range of 0%–35%. Pathway made commitments to two international partnerships during 2012, both of which represent new manager relationships: \$15.0 million to Advent VII and €3.7 million (\$4.8 million) to Holtzbrinck V.

The portfolio's international partnerships performed particularly well during 2012, collectively generating a 15.5% return (including currency exchange-rate fluctuations) for the 1-year period ended December 31, 2012; three partnerships (i.e., BC IX, CVC IV, and Permira IV) generated net returns in excess of 20% during this period. This strong 1-year performance drove an 88-basis-point improvement in the international portfolio's since-inception return, which improved from 8.2% to 9.1% from December 31, 2011, to December 31, 2012.

2013 Investment Plan

In 2013, Pathway will continue to further expand and diversify ARMB's portfolio, adding commitments to both existing managers and new managers that meet Pathway's strict investment criteria and that complement the existing portfolio. To achieve this objective, Pathway will target commitments of \$125 million in up to 14 partnerships, subject to the availability of high-quality investment opportunities. Pathway expects to commit between \$10 million and \$20 million per partnership. Consistent with its approach to date, Pathway will focus primarily on newly formed limited partnerships but will also selectively consider secondary partnership interests. ARMB's 2013 Tactical Plan is summarized in table 2.

Table 2. ARMB's 2013 Annual Tactical Plan

By Strategy

Investment Strategies	No. of Partnerships	Total Commitments
Buyouts	Up to 6	Up to \$85 million
Venture Capital	Up to 6	Up to \$70 million
Special Situations	Up to 3	Up to \$30 million
Restructuring	Up to 3	Up to \$30 million
Subordinated Debt	None	None
Total	Up to 14	Up to \$125 million

When selecting partnerships for the ARMB portfolio, Pathway will continue to follow an opportunistic investment philosophy while maintaining its disciplined investment process and rigorous selection criteria to ensure that each partnership is of the highest quality. Because Pathway seeks only the highest-quality investment opportunities in the market, the amount committed to any one strategy may vary from year to year depending on what opportunities are perceived to be the most attractive at the time. Under no circumstance will Pathway commit ARMB's capital to a partnership that does not meet its high-quality standards.

2013 Plan to Date

Through March 22, 2013, Pathway has committed \$54.9 million on behalf of ARMB, or 44% of the 2013 Tactical Plan allocation target, to four partnerships. In January, ARMB committed \$15.0 million to TCX VIII, an existing venture capital manager relationship focused on late-stage and growth equity investments in the information technology industry. In February, ARMB committed \$10.2 million to TowerBrook IV, a buyout-focused, new manager relationship that targets control-oriented investments in middle-market companies in Western Europe and the United States, and €1.0 million (\$14.7 million) to Nordic VIII, a buyouts-focused, new manager relationship that is being formed to acquire middle-market companies located in the Nordic region of Europe and in Germany. In March, ARMB committed \$15.0 million to Insight VIII, an existing venture capital manager relationship focused on growth investments in the software, Internet, and new media technology sectors. Pathway anticipates that the flow of new opportunities will be robust for the remainder of 2013 and has identified a number of potential partnerships for the ARMB portfolio, including nine partnerships being raised through existing general partner relationships and several partnerships being raised through new general partner relationships. It is too early, however, to determine whether these partnerships will be included in ARMB's portfolio in 2013; some may not meet Pathway's rigorous investment criteria and others may postpone fundraising until the following year, depending on market conditions and investment pace.

Monitoring

Pathway's goals in monitoring ARMB's private equity portfolio are (1) to protect the portfolio's investments by reducing the occurrence of negative events within the portfolio; (2) to take full advantage of the rights offered to ARMB through its limited partnership agreements; and (3) to enhance the portfolio's returns. In 2013, Pathway will continue to fulfill its role as an active investor by maintaining an active dialogue with general partners, attending regular meetings, and representing ARMB on advisory boards. During 2012, Pathway participated in 175 advisory board/monitoring meetings, attended 45 annual meetings, and reviewed more than 50 amendments related to the ARMB portfolio. Pathway will continue to monitor the investment pace of the portfolio and the partnerships' adherence to their stated investment strategies to ensure that the investments stay within the guidelines set forth by ARMB. Pathway will also continue to closely monitor the compliance of ARMB's partnerships with regard to ASC 820 (formerly SFAS 157) accounting standards.

Pathway will keep ARMB informed of developments in the portfolio by maintaining regular contact with ARMB staff and by providing quarterly reports on the performance and status of ARMB's private equity investments, as well as through Pathway's Online Management System (POMS), which provides a database of ARMB investments that is regularly updated with cash flows, market values, portfolio company valuations, and performance measurements.

Exiting

Distribution activity reached a record level in 2012 as a result of the portfolio's general partners taking advantage of accommodative credit markets and a favorable exit environment to return capital through dividend recapitalizations and asset sales. The portfolio's partnerships distributed \$185.4 million, which represents a 34% increase from the prior record total of \$138.7 million received in 2011. Distribution activity increased in each incremental quarter of the year, and the year included three of the portfolio's top-four quarterly distribution totals since the program's inception. This activity was spread across all four of the portfolio's core strategies: the portfolio's buyouts, venture capital, and restructuring strategies each achieved record distributions in 2012, and the special situations strategy posted the second-highest annual total in its history.

Summary

Over the past 11 years, Pathway has developed a strong foundation for its portion of ARMB's private equity portfolio. In order to continue the development of the portfolio, Pathway recommends that ARMB adopt the following 2013 Tactical Plan:

- Target commitments of \$125 million during the 2013 calendar year, subject to the availability of high-quality investment opportunities.
- Invest up to \$20 million per partnership in up to 14 partnerships during 2013, in opportunities from both existing manager relationships and new manager relationships. Investments will typically range from between \$10 million and \$20 million; however, Pathway may invest smaller amounts in highly sought-after, oversubscribed partnerships if there is a strong likelihood that ARMB will be able to commit a larger amount in these general partners' next funds.
- Continue to adhere to the long-term target allocation ranges by strategy (buyouts, 30%–60%; venture capital, 15%–40%; and special situations, 20%–40%²) and by geographic region (up to 35% in international partnerships), while maintaining a flexible posture in order to invest in only the highest-quality partnerships.

Pathway will continue to maintain a highly selective approach, with an emphasis on identifying cohesive management teams that possess significant investment experience and that have demonstrated strong performance across multiple business and economic cycles.

2. Includes restructuring and distressed debt partnerships.

Active/Passive Investment Management

-The On-Going Debate

Index Classification

- **An index may be classified according to the method used to determine its price.**
 - In a *price-weighted* index such as the Dow Jones Industrial Average, the price of each component stock is the only consideration when determining the value of the index.
 - In contrast, a *market-value weighted* or *capitalization-weighted* index like the S&P 500, factors in the size of the company.
 - The use of capitalization-weighted indices is often justified by the central conclusion of modern portfolio theory that the optimal investment strategy for any investor is to hold the market portfolio, the capitalization-weighted portfolio of all assets.

Definitions

- **Passive Investing:** strategy in which an investor invests in accordance with a pre-determined strategy that doesn't entail any forecasting. The most popular method is to mimic the performance of an externally specified index.
- **Active Management:** strategy where the manager makes specific investments with the goal of outperforming an investment benchmark index **over the long run.**

Academic Support for Passive Investing

- **Louis Bachelier:** French mathematician, PhD thesis in 1900, “The Theory of Speculation”
- **Eugene Fama:** University of Chicago, PhD thesis in 1965
- **Paul Samuelson:** the first American to win the Nobel Prize in Economics.
- **Burton Malkiel:** Princeton economist, wrote “A Random Walk Down Wall Street” in 1973.
- **William Sharpe:** Professor of Finance, Emeritus at Stanford University’s Graduate School of Business and the winner of the 1990 Nobel Prize in Economics.

Efficient Market Hypothesis (EMH)

Developed by Eugene Fama and Paul Samuelson in the 1960s and further expanded in the 1970s

- **Weak-Form Efficiency:** future prices cannot be predicted by analyzing prices from the past. Price movement is random.
- **Semistrong-Form Efficiency:** share prices adjust very rapidly to publicly available new information in an unbiased fashion. No excess return can be earned by trading on publicly available information.
- **Strong-Form Efficiency:** share prices reflect all information, public and private, and no one can earn an excess return.

William F. Sharpe, Support for “Passive” Management

If “active” and “passive” management styles are defined in sensible ways, it must be the case that

- (1) Before costs, the return on the AVERAGE actively [emphasis added] managed dollar will equal the return on the average passively managed dollar and;
- (2) After costs, the return on the AVERAGE actively managed dollar will be less than the return on the average passively managed dollar.

These assertions will hold for any time period. Moreover, they depend only on the laws of Addition, subtraction, multiplication and division. Nothing else is required.

Exceptions to EMH

Research has presented numerous exceptions to EMH:

- (1) The Size Effect where small capitalization companies outperform large. Banz (1981), Keim (1983), Roll (1983), and Rozeff and Kinney (1976)
- (2) The Value Effect where low P/E stocks outperform high P/E stocks. Dreman and Berry (1995)
- (3) Momentum effects where positive and negative performance persists. Jegadeesh (1990); Chan, Jegadeesh, and Lakonishok (1996); and Jegadeesh and Titman (2001)
- (4) Calendar effects, Lakonishok and Smidt (1988)
- (5) Reinker and Tower (2004) analyzed Vanguard's actively managed funds and found that low-cost active funds had higher returns and lower risk than passive funds.
- (6) Behavioral finance combines cognitive psychological theory with conventional economics to explain why people make irrational decisions

Other Comments by William F. Sharpe

- It is perfectly possible for some active managers to beat their passive brethren, even after costs.
- Not all managers in the set have to beat their passive counterparts, only those managing a majority of the investor's actively managed funds.
- The best way to measure a manager's performance is to compare his or her return with that of a comparable passive alternative which has been identified **in advance** of the period over which performance is measured.

**Prepared for ARMB
March 3, 2013**



**Historical Active Management
Premiums by Asset Class &
Style**

Fourth Quarter 2012

**Michael J. O'Leary CFA
Executive Vice President**

Overview & Explanation

Active versus Passive Management Perspectives

- The graphs that follow show how active managers within Callan “style” groups have fared relative to appropriate stock and bond market indexes. The presentation method uses trailing 3-year return distributions for the Callan style groups. We chose to use trailing 3-year periods to minimize the effects of survivorship bias.
- It, however, is important to recognize that those managers who outperformed or underperformed in any three year span may well have either outperformed or underperformed in subsequent three year periods. Thus, the presentation does not intend to support or refute the notion that active managers are superior to or inferior to passive management.
- The presentation also contains information regarding the varying percentage of managers who have been successful in outperforming various “hurdle” rates. These hurdle rate data demonstrate the importance of minimizing expenses. Within each set of illustrations, the hurdle rates are designed to provide information on a range of fees common to the style category. For example, the hurdle rates for bond managers are much lower than the hurdle rates for small cap equities.
- The exhibits demonstrate that active large cap manager equity returns tend to be narrower than the range associated with small cap equity management. This is not surprising. It also is interesting to observe that, on average, small cap and international managers have tended to outperform broad market measures (despite typically higher fees than large cap).

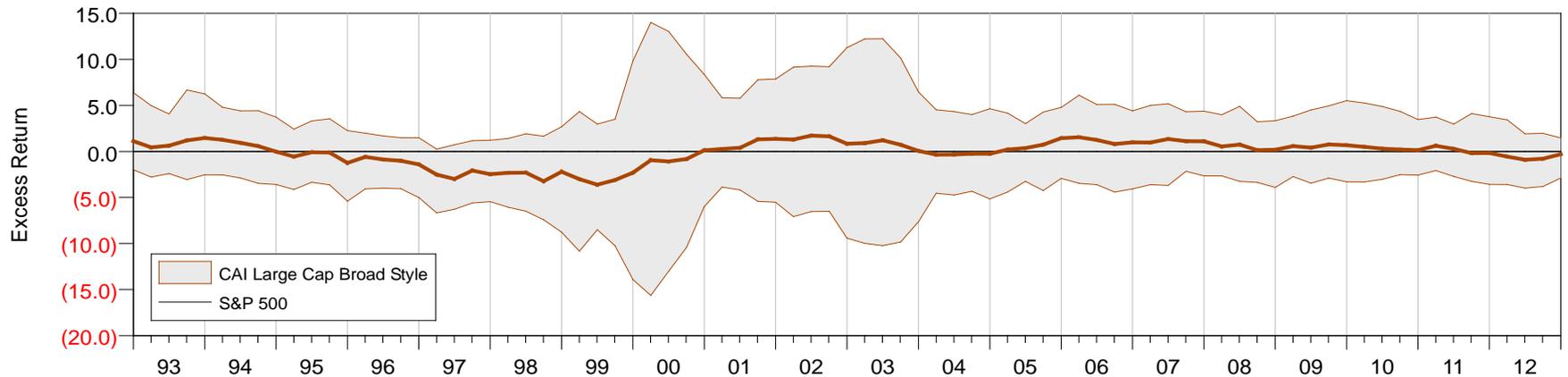
Large Cap Broad Equity Style versus S&P 500

Percent of Three-Year periods where Manager Beat Benchmark by more than Hurdle – by Percentile

Hurdle	0.25%	0.30%	0.35%	0.40%	0.45%	0.50%	0.55%	0.60%	0.65%	0.70%
Median	49%	48%	45%	44%	41%	40%	39%	35%	33%	31%
45th Percentile	61%	61%	59%	56%	55%	55%	54%	50%	49%	48%
40th Percentile	73%	73%	71%	71%	71%	71%	69%	68%	64%	63%
35th Percentile	75%	75%	74%	74%	74%	74%	74%	74%	73%	73%
30th Percentile	83%	83%	80%	79%	78%	76%	75%	75%	74%	74%
25th Percentile	88%	86%	86%	86%	86%	86%	86%	84%	84%	84%

Average Annualized Excess Return – Median Manager: **-0.10%**

Rolling 12 Quarter Excess Return Relative To S&P:500 for 20 Years ended December 31, 2012



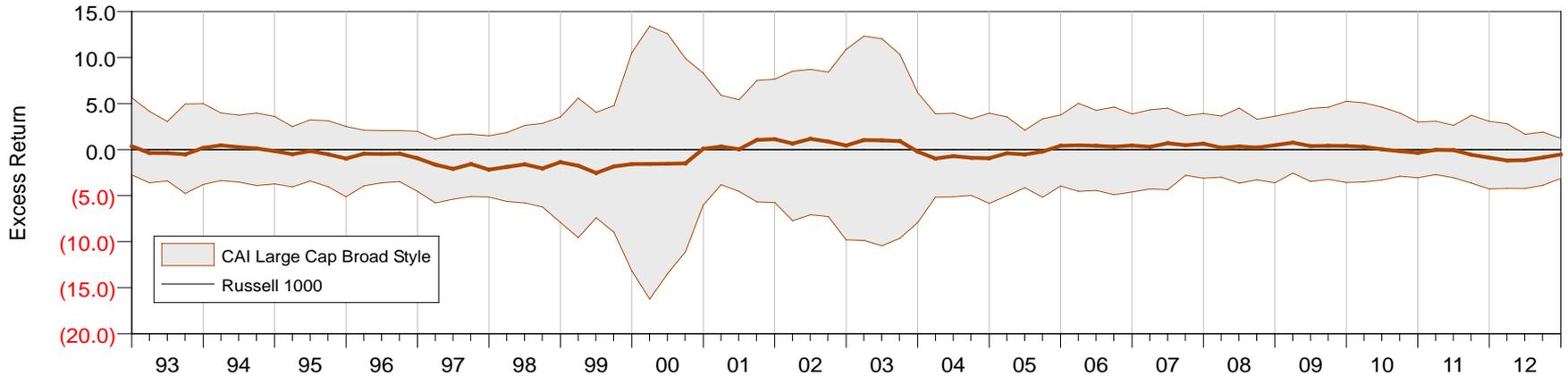
Large Cap Broad Equity Style versus Russell 1000

Percent of Three-Year periods where Manager Beat Benchmark by more than Hurdle – by Percentile

Hurdle	0.25%	0.30%	0.35%	0.40%	0.45%	0.50%	0.55%	0.60%	0.65%	0.70%
Median	35%	34%	29%	26%	20%	14%	14%	14%	14%	10%
45th Percentile	46%	45%	44%	44%	44%	41%	38%	38%	36%	31%
40th Percentile	65%	65%	64%	61%	55%	51%	50%	49%	48%	46%
35th Percentile	76%	75%	73%	73%	71%	70%	68%	66%	66%	63%
30th Percentile	88%	86%	86%	84%	81%	81%	80%	79%	78%	76%
25th Percentile	93%	91%	90%	90%	89%	89%	88%	88%	85%	85%

Average Annualized Excess Return – Median Manager: **-0.31%**

Rolling 12 Quarter Excess Return relative to Russell 1000 for 20 Years ended December 31, 2012



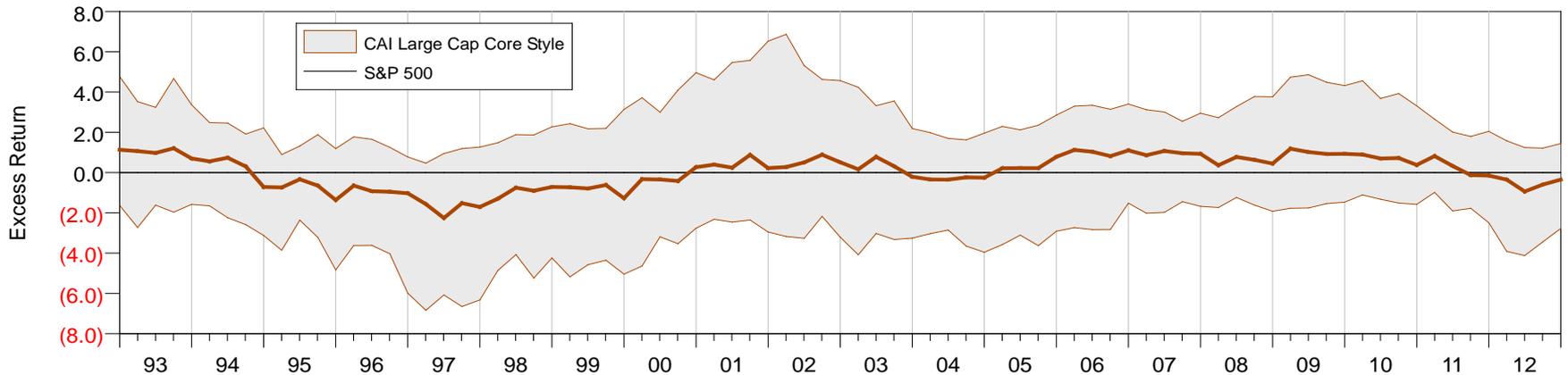
Large Cap Core Equity Style versus S&P 500

Percent of Three-Year periods where Manager Beat Benchmark by more than Hurdle – by Percentile

Hurdle	0.25%	0.30%	0.35%	0.40%	0.45%	0.50%	0.55%	0.60%	0.65%	0.70%
Median	49%	46%	43%	39%	38%	38%	35%	34%	33%	33%
45th Percentile	58%	58%	58%	56%	56%	53%	51%	48%	43%	40%
40th Percentile	61%	61%	61%	61%	60%	60%	59%	56%	56%	54%
35th Percentile	74%	71%	68%	66%	65%	64%	63%	63%	60%	60%
30th Percentile	83%	81%	81%	76%	76%	75%	74%	73%	70%	69%
25th Percentile	90%	88%	86%	84%	83%	83%	79%	79%	79%	75%

Average Annualized Excess Return – Median Manager: **0.05%**

Rolling 12 Quarter Excess Return relative to S&P 500 for 20 Years ended December 31, 2012



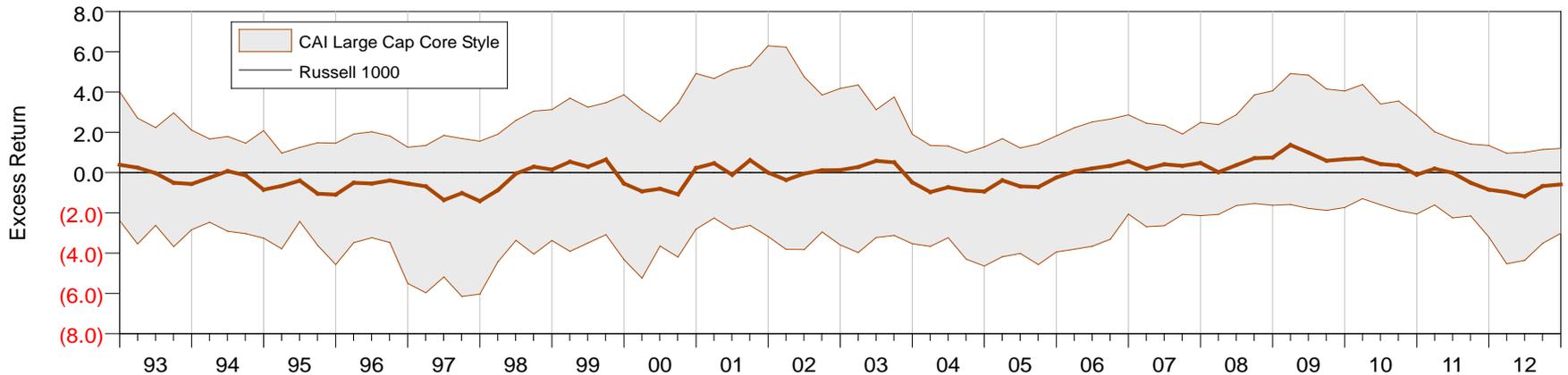
Large Cap Core Equity Style versus Russell 1000

Percent of Three-Year periods where Manager Beat Benchmark by more than Hurdle – by Percentile

Hurdle	0.25%	0.30%	0.35%	0.40%	0.45%	0.50%	0.55%	0.60%	0.65%	0.70%
Median	31%	26%	24%	21%	19%	16%	14%	10%	9%	6%
45th Percentile	49%	45%	40%	39%	36%	33%	25%	21%	20%	18%
40th Percentile	60%	55%	53%	51%	48%	46%	43%	39%	39%	36%
35th Percentile	63%	63%	58%	56%	54%	53%	53%	48%	48%	46%
30th Percentile	76%	74%	73%	70%	64%	60%	58%	56%	55%	51%
25th Percentile	85%	84%	83%	80%	78%	75%	71%	69%	65%	64%

Average Annualized Excess Return – Median Manager: **-0.16%**

Rolling 12 Quarter Excess Return relative to Russell 1000 for 20 Years ended December 31, 2012



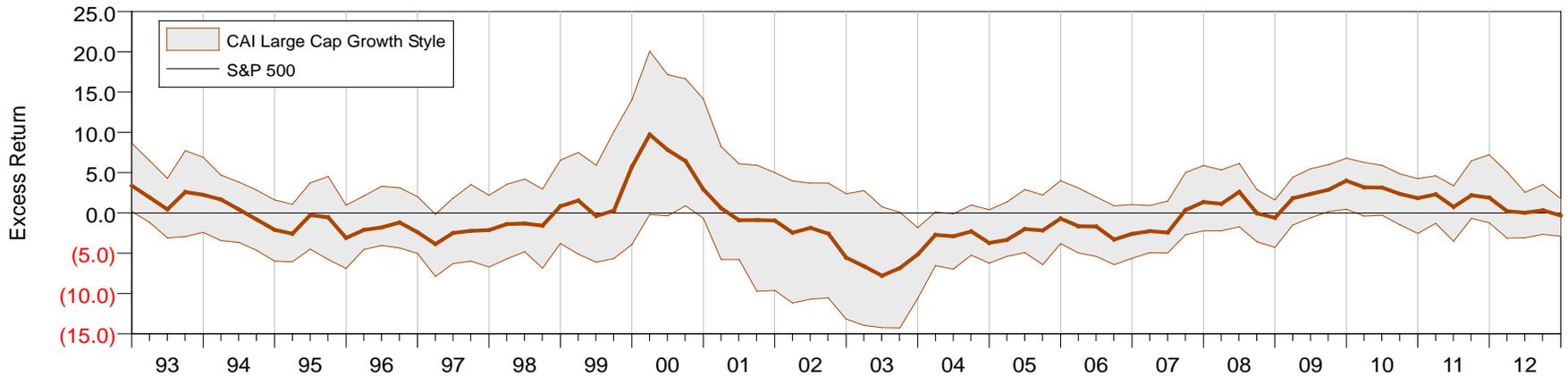
Large Cap Growth Equity Style versus S&P 500

Percent of Three-Year periods where Manager Beat Benchmark by more than Hurdle – by Percentile

Hurdle	0.25%	0.30%	0.35%	0.40%	0.45%	0.50%	0.55%	0.60%	0.65%	0.70%
Median	40%	40%	38%	36%	36%	34%	34%	34%	33%	33%
45th Percentile	45%	44%	43%	43%	43%	40%	39%	39%	38%	38%
40th Percentile	50%	50%	50%	50%	48%	46%	46%	45%	45%	44%
35th Percentile	55%	54%	54%	53%	53%	53%	51%	50%	50%	50%
30th Percentile	64%	63%	61%	59%	58%	58%	58%	56%	56%	56%
25th Percentile	69%	69%	68%	68%	66%	66%	65%	65%	64%	63%

Average Annualized Excess Return – Median Manager: **-0.35%**

Rolling 12 Quarter Excess Return relative to S&P 500 for 20 Years ended December 31, 2012



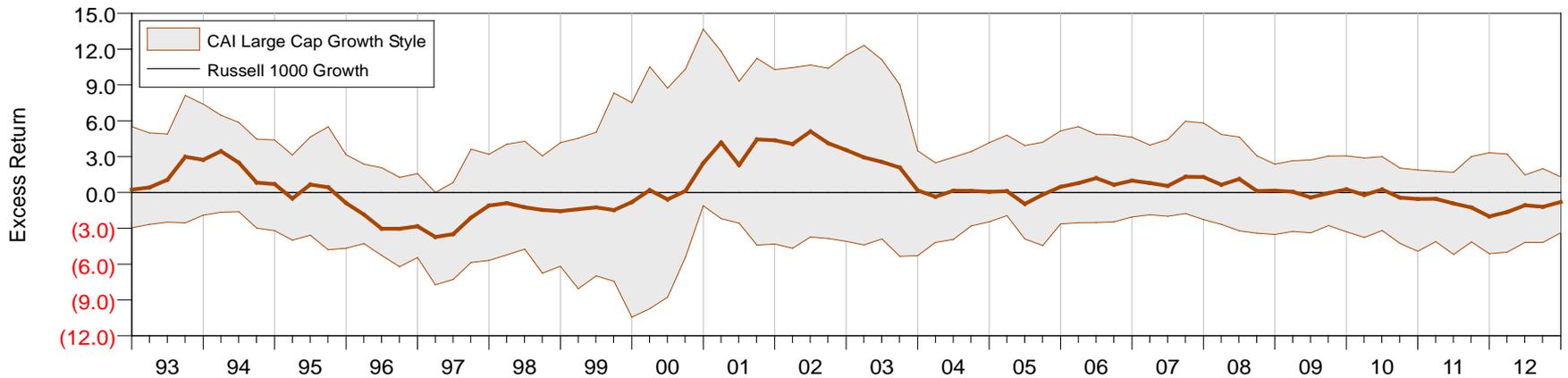
Large Cap Growth Equity Style versus Russell 1000 Growth

Percent of Three-Year periods where Manager Beat Benchmark by more than Hurdle – by Percentile

Hurdle	0.25%	0.30%	0.35%	0.40%	0.45%	0.50%	0.55%	0.60%	0.65%	0.70%
Median	43%	41%	41%	41%	39%	38%	38%	36%	36%	33%
45th Percentile	58%	55%	53%	50%	48%	45%	45%	44%	44%	44%
40th Percentile	68%	66%	66%	65%	65%	61%	60%	56%	55%	51%
35th Percentile	75%	75%	74%	74%	73%	70%	70%	66%	66%	66%
30th Percentile	83%	83%	83%	81%	80%	79%	76%	74%	74%	74%
25th Percentile	89%	86%	86%	85%	85%	84%	83%	83%	83%	83%

Average Annualized Excess Return – Median Manager: **0.30%**

Rolling 12 Quarter Excess Return relative to Russell 1000 Growth for 20 Years ended December 31, 2012



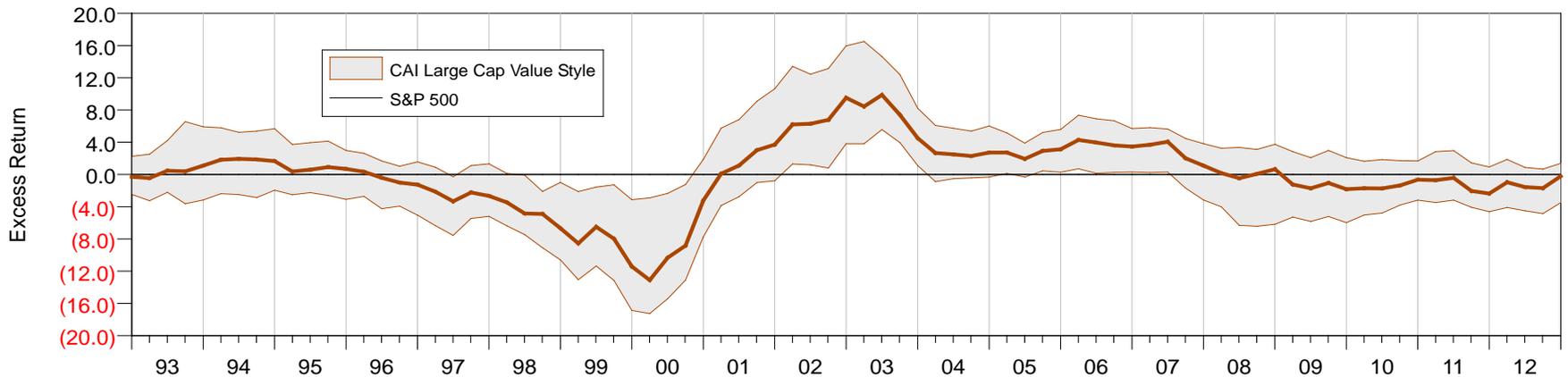
Large Cap Value Equity Style versus S&P 500

Percent of Three-Year periods where Manager Beat Benchmark by more than Hurdle – by Percentile

Hurdle	0.25%	0.30%	0.35%	0.40%	0.45%	0.50%	0.55%	0.60%	0.65%	0.70%
Median	50%	50%	49%	48%	46%	45%	45%	45%	44%	41%
45th Percentile	54%	53%	51%	51%	51%	51%	51%	51%	49%	49%
40th Percentile	55%	55%	54%	54%	54%	54%	54%	54%	54%	53%
35th Percentile	56%	56%	56%	56%	56%	55%	55%	55%	55%	55%
30th Percentile	61%	60%	60%	60%	59%	58%	58%	56%	55%	55%
25th Percentile	66%	66%	64%	63%	61%	60%	60%	60%	60%	59%

Average Annualized Excess Return – Median Manager: **0.03%**

Rolling 12 Quarter Excess Return relative to S&P 500 for 20 Years ended December 31, 2012



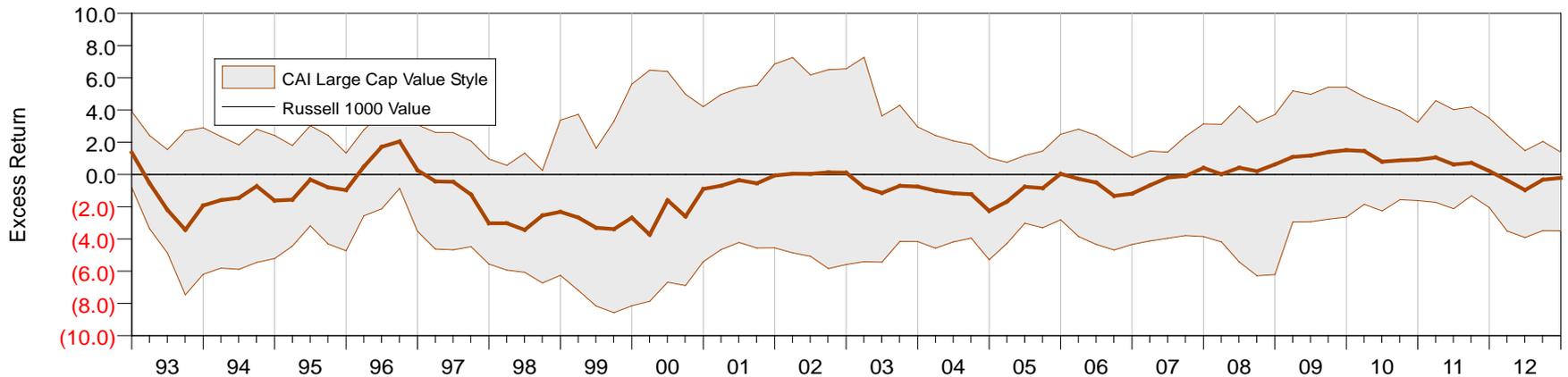
Large Cap Value Equity Style versus Russell 1000 Value

Percent of Three-Year periods where Manager Beat Benchmark by more than Hurdle – by Percentile

Hurdle	0.25%	0.30%	0.35%	0.40%	0.45%	0.50%	0.55%	0.60%	0.65%	0.70%
Median	23%	21%	21%	21%	19%	18%	18%	18%	15%	15%
45th Percentile	34%	34%	34%	34%	33%	30%	29%	28%	24%	24%
40th Percentile	45%	43%	41%	38%	38%	38%	36%	36%	34%	33%
35th Percentile	54%	53%	51%	50%	50%	45%	44%	43%	41%	41%
30th Percentile	65%	63%	60%	59%	56%	56%	56%	53%	53%	50%
25th Percentile	76%	73%	70%	69%	68%	68%	65%	65%	64%	63%

Average Annualized Excess Return – Median Manager: **-0.70%**

Rolling 12 Quarter Excess Return relative to Russell 1000 Value for 20 Years ended December 31, 2012



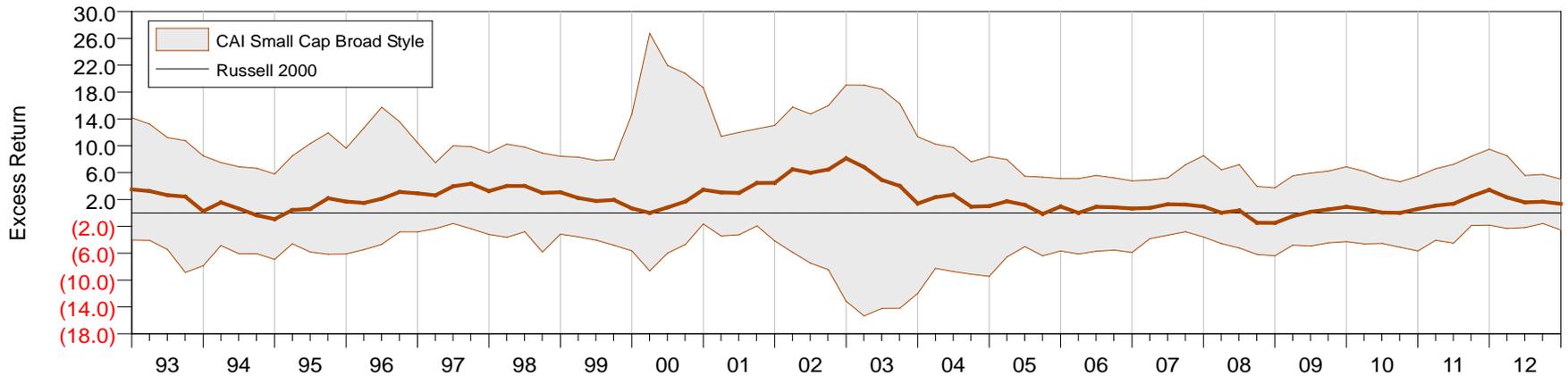
Small Cap Broad Equity Style versus Russell 2000

Percent of Three-Year periods where Manager Beat Benchmark by more than Hurdle – by Percentile

Hurdle	0.50%	0.55%	0.60%	0.65%	0.70%	0.75%	0.80%	0.85%	0.90%	0.95%
Median	81%	80%	79%	76%	73%	73%	71%	69%	69%	65%
45th Percentile	94%	90%	90%	89%	88%	86%	86%	85%	85%	84%
40th Percentile	98%	98%	98%	98%	96%	95%	94%	91%	91%	91%
35th Percentile	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%
30th Percentile	99%	98%	98%	98%	98%	98%	98%	98%	98%	98%
25th Percentile	100%	100%	100%	100%	100%	99%	99%	99%	99%	99%

Average Annualized Excess Return – Median Manager: **1.97%**

Rolling 12 Quarter Excess Return relative to Russell:2000 Index for 20 Years ended December 31, 2012



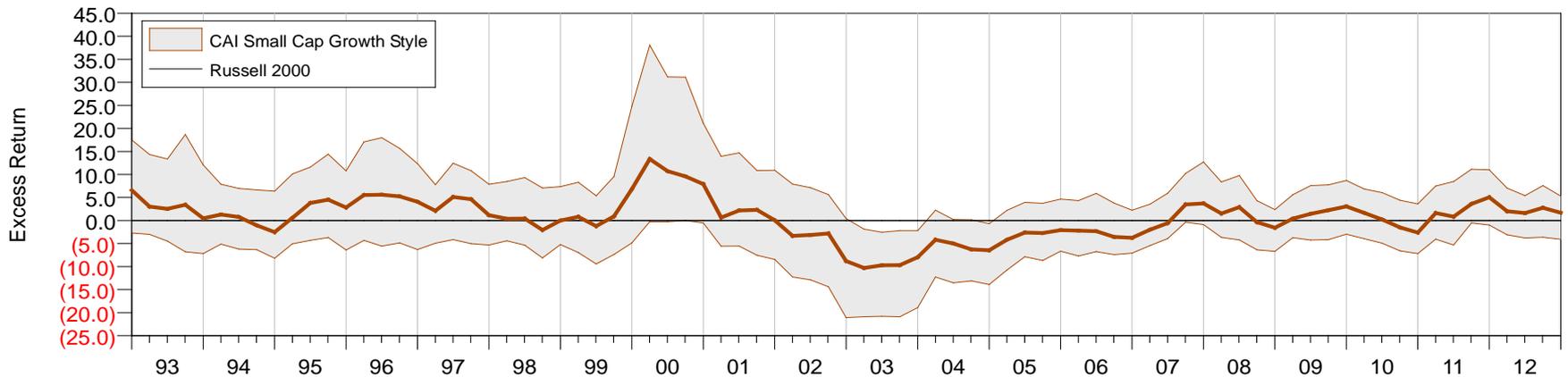
Small Cap Growth Equity Style versus Russell 2000

Percent of Three-Year periods where Manager Beat Benchmark by more than Hurdle – by Percentile

Hurdle	0.50%	0.55%	0.60%	0.65%	0.70%	0.75%	0.80%	0.85%	0.90%	0.95%
Median	54%	54%	53%	53%	51%	51%	50%	49%	48%	46%
45th Percentile	61%	61%	60%	59%	59%	58%	58%	58%	56%	56%
40th Percentile	64%	64%	64%	64%	64%	64%	64%	64%	64%	64%
35th Percentile	70%	70%	69%	69%	69%	68%	68%	65%	65%	64%
30th Percentile	78%	78%	75%	75%	74%	74%	73%	73%	73%	71%
25th Percentile	85%	84%	81%	81%	80%	80%	79%	79%	79%	79%

Average Annualized Excess Return – Median Manager: **0.47%**

Rolling 12 Quarter Excess Return relative to Russell 2000 for 20 Years ended December 31, 2012



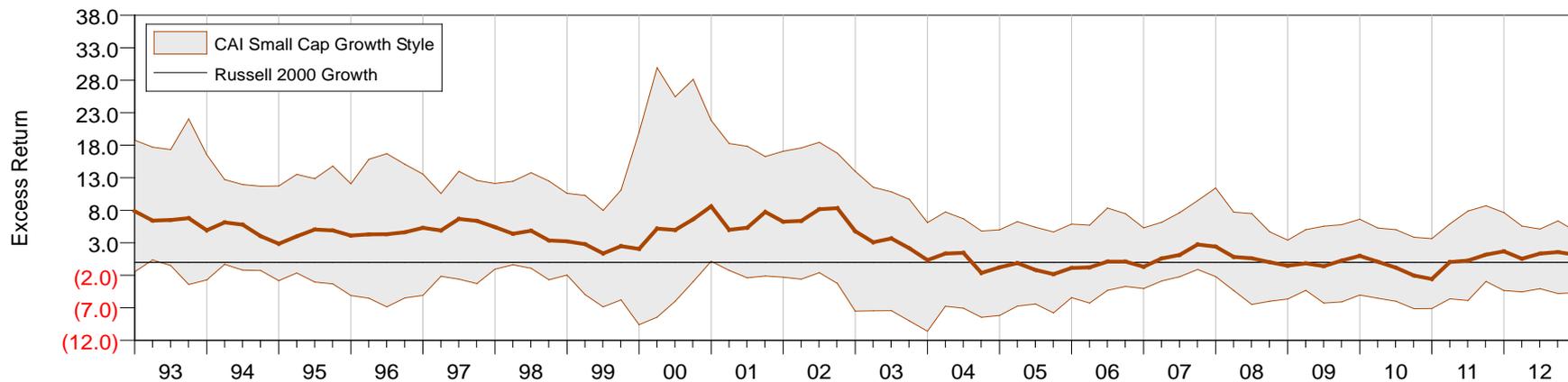
Small Cap Growth Equity Style versus Russell 2000 Growth

Percent of Three-Year periods where Manager Beat Benchmark by more than Hurdle – by Percentile

Hurdle	0.50%	0.55%	0.60%	0.65%	0.70%	0.75%	0.80%	0.85%	0.90%	0.95%
Median	73%	73%	71%	69%	69%	69%	69%	68%	68%	68%
45th Percentile	78%	76%	76%	76%	76%	75%	75%	75%	75%	73%
40th Percentile	93%	91%	91%	91%	88%	85%	85%	84%	84%	84%
35th Percentile	95%	94%	94%	94%	94%	94%	94%	94%	93%	93%
30th Percentile	99%	99%	99%	98%	98%	98%	98%	98%	98%	98%
25th Percentile	100%	100%	100%	99%	99%	99%	99%	99%	99%	99%

Average Annualized Excess Return – Median Manager: **2.76%**

Rolling 12 Quarter Excess Return relative to Russell 2000 Growth for 20 Years ended December 31, 2012



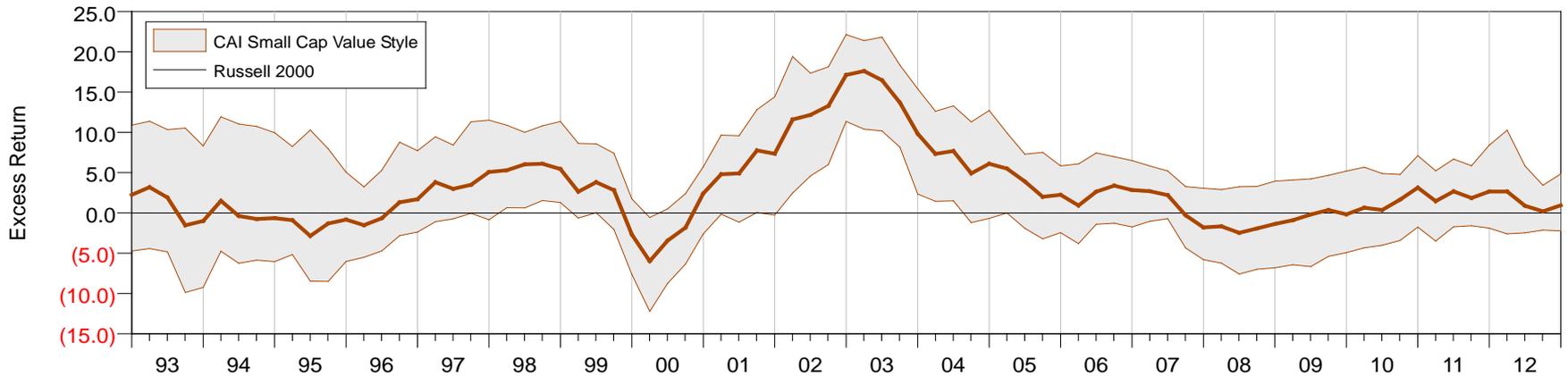
Small Cap Value Equity Style versus Russell 2000

Percent of Three-Year periods where Manager Beat Benchmark by more than Hurdle – by Percentile

Hurdle	0.50%	0.55%	0.60%	0.65%	0.70%	0.75%	0.80%	0.85%	0.90%	0.95%
Median	66%	66%	66%	65%	65%	65%	65%	65%	64%	61%
45th Percentile	71%	71%	70%	70%	70%	70%	70%	70%	70%	70%
40th Percentile	76%	75%	75%	75%	75%	75%	74%	74%	74%	74%
35th Percentile	83%	83%	83%	83%	83%	83%	83%	83%	83%	81%
30th Percentile	90%	90%	89%	89%	88%	86%	86%	86%	86%	86%
25th Percentile	94%	94%	94%	93%	93%	93%	91%	91%	91%	91%

Average Annualized Excess Return – Median Manager: **2.92%**

Rolling 12 Quarter Excess Return relative to Russell 2000 for 20 Years ended December 31, 2012



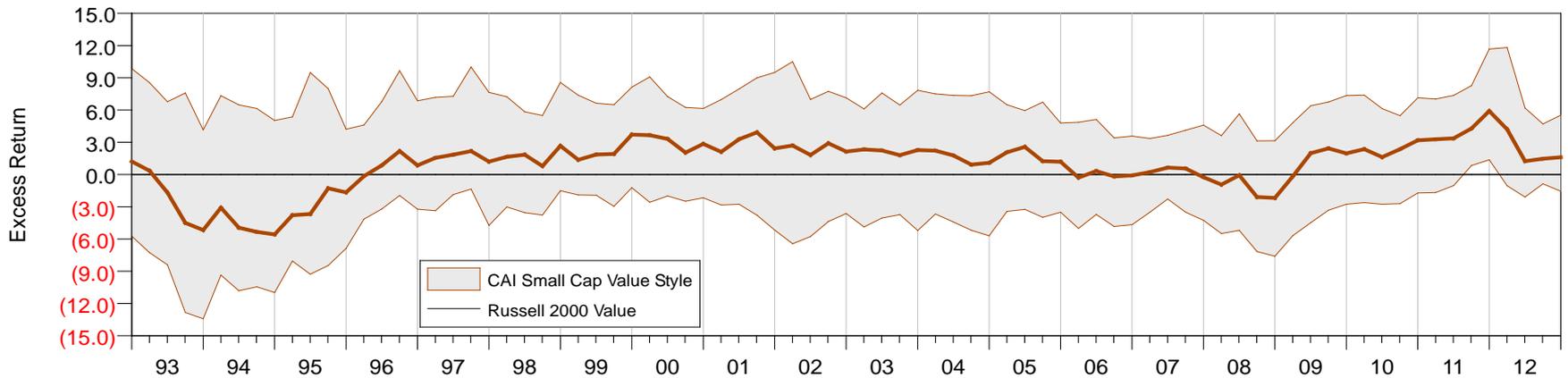
Small Cap Value Equity Style versus Russell 2000 Value

Percent of Three-Year periods where Manager Beat Benchmark by more than Hurdle – by Percentile

Hurdle	0.50%	0.55%	0.60%	0.65%	0.70%	0.75%	0.80%	0.85%	0.90%	0.95%
Median	70%	70%	69%	69%	68%	68%	66%	66%	64%	63%
45th Percentile	71%	71%	70%	70%	69%	69%	68%	68%	66%	66%
40th Percentile	80%	80%	80%	80%	79%	76%	76%	75%	74%	74%
35th Percentile	84%	84%	83%	83%	83%	83%	81%	81%	81%	81%
30th Percentile	91%	91%	91%	91%	90%	89%	89%	88%	88%	88%
25th Percentile	96%	96%	96%	96%	96%	96%	96%	96%	95%	93%

Average Annualized Excess Return – Median Manager: **0.98%**

Rolling 12 Quarter Excess Return relative to Russell 2000 Value for 20 Years ended December 31, 2012



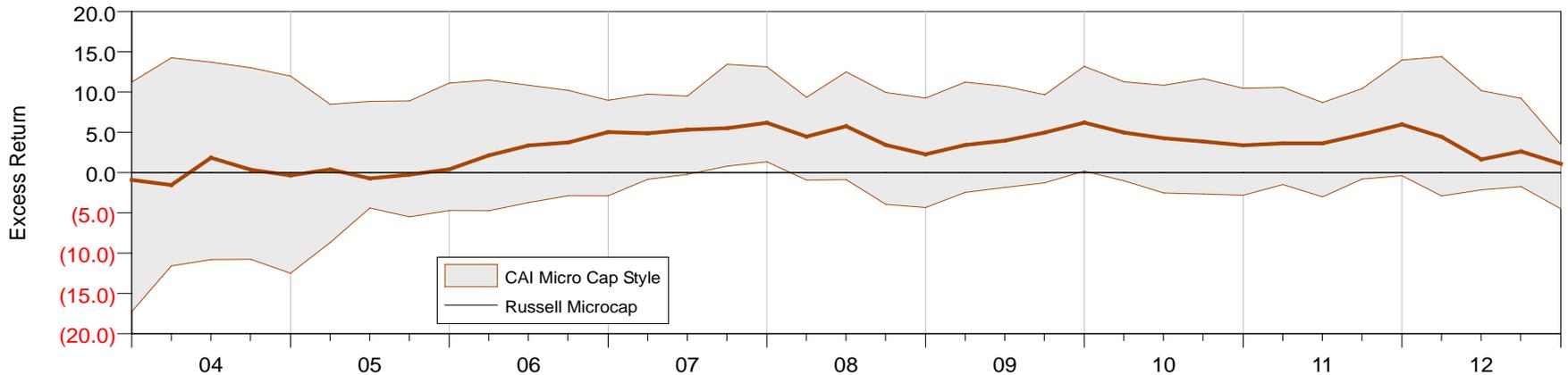
Micro Cap Equity Style versus Russell Microcap

Percent of Three-Year periods where Manager Beat Benchmark by more than Hurdle – by Percentile

Hurdle	0.80%	0.85%	0.90%	0.95%	1.00%	1.05%	1.10%	1.15%	1.20%	1.25%
Median	79%	79%	79%	79%	79%	79%	76%	76%	76%	76%
45th Percentile	89%	89%	89%	89%	89%	89%	89%	87%	87%	87%
40th Percentile	97%	97%	97%	97%	97%	97%	97%	97%	97%	97%
35th Percentile	97%	97%	97%	97%	97%	97%	97%	97%	97%	97%
30th Percentile	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
25th Percentile	100%	100%	100%	100%	100%	100%	100%	100%	100%	74%

Average Annualized Excess Return – Median Manager: **3.08%**

Rolling 12 Quarter Excess Return relative to Russell Microcap for 9 Years ended December 31, 2012



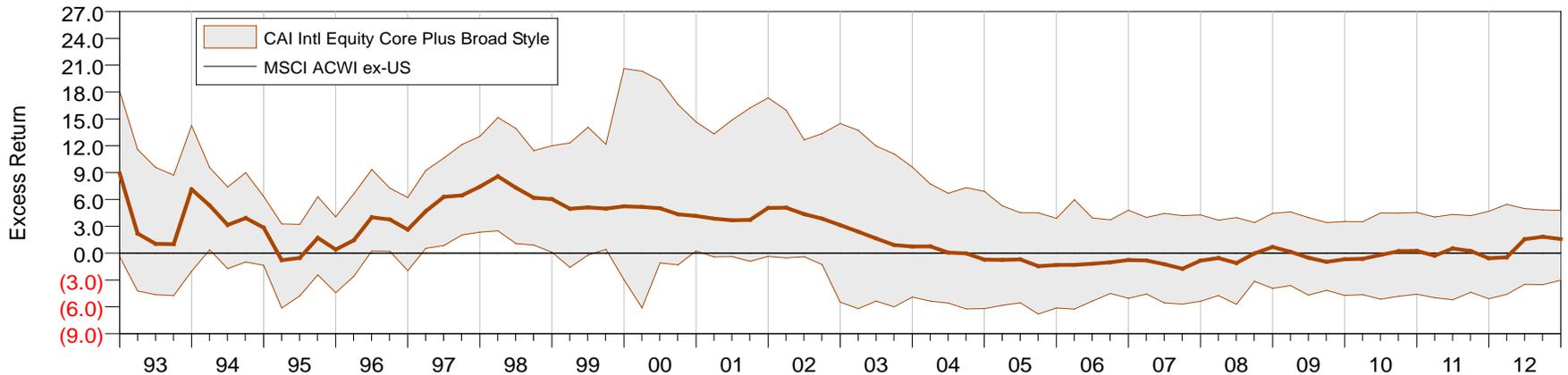
International Equity Core Plus Broad Style vs MSCI ACWI ex-US

Percent of Three-Year periods where Manager Beat Benchmark by more than Hurdle – by Percentile

Hurdle	0.45%	0.50%	0.55%	0.60%	0.65%	0.70%	0.75%	0.80%	0.85%	0.90%
Median	59%	59%	58%	58%	58%	56%	55%	54%	54%	54%
45th Percentile	65%	65%	65%	65%	61%	58%	58%	58%	58%	58%
40th Percentile	74%	71%	71%	71%	71%	69%	69%	68%	65%	64%
35th Percentile	84%	81%	80%	78%	78%	75%	75%	75%	75%	74%
30th Percentile	95%	95%	95%	94%	94%	94%	94%	89%	86%	83%
25th Percentile	100%	100%	100%	100%	100%	100%	99%	98%	98%	98%

Average Annualized Excess Return – Median Manager: **1.98%**

Rolling 12 Quarter Excess Return relative to MSCI ACWI ex-US for 20 Years ended December 31, 2012



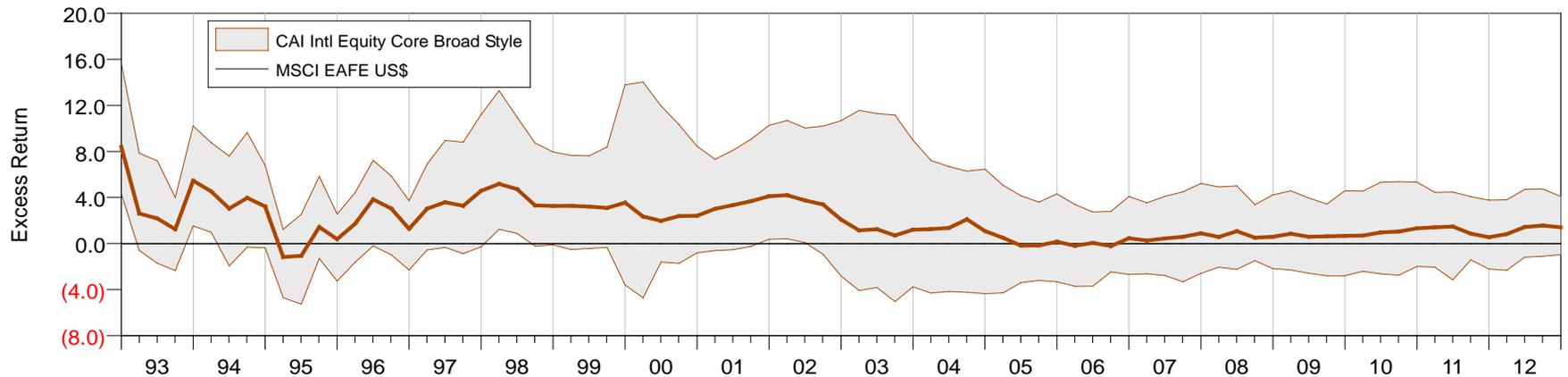
International Equity Core Broad Style versus MSCI EAFE

Percent of Three-Year periods where Manager Beat Benchmark by more than Hurdle – by Percentile

Hurdle	0.45%	0.50%	0.55%	0.60%	0.65%	0.70%	0.75%	0.80%	0.85%	0.90%
Median	86%	85%	83%	76%	75%	73%	71%	71%	70%	66%
45th Percentile	95%	91%	90%	90%	89%	86%	86%	86%	84%	83%
40th Percentile	98%	98%	96%	96%	95%	95%	94%	91%	90%	89%
35th Percentile	98%	98%	98%	98%	98%	98%	98%	96%	96%	96%
30th Percentile	98%	98%	98%	98%	98%	98%	98%	98%	98%	98%
25th Percentile	100%	99%	98%	98%	98%	98%	98%	98%	98%	98%

Average Annualized Excess Return – Median Manager: **1.86%**

Rolling 12 Quarter Excess Return relative to MSCI EAFE US\$ for 20 Years ended December 31, 2012



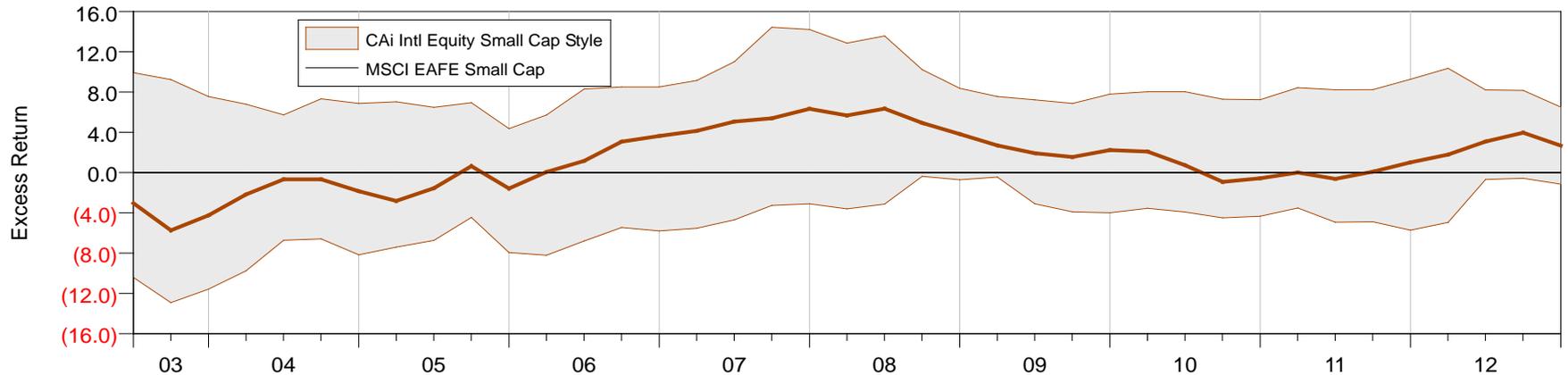
International Equity Small Cap Style vs MSCI EAFE Small Cap

Percent of Three-Year periods where Manager Beat Benchmark by more than Hurdle – by Percentile

Hurdle	0.75%	0.80%	0.85%	0.90%	0.95%	1.00%	1.05%	1.10%	1.15%	1.20%
Median	55%	55%	55%	55%	53%	50%	50%	50%	50%	48%
45th Percentile	65%	65%	63%	63%	60%	60%	60%	58%	58%	58%
40th Percentile	73%	73%	73%	68%	68%	68%	68%	68%	68%	68%
35th Percentile	83%	83%	80%	80%	78%	78%	78%	78%	78%	78%
30th Percentile	95%	95%	95%	95%	95%	95%	93%	93%	93%	93%
25th Percentile	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Average Annualized Excess Return – Median Manager: **1.07%**

Rolling 12 Quarter Excess Return relative to MSCI EAFE Small Cap for 9 1/2 Years ended December 31, 2012



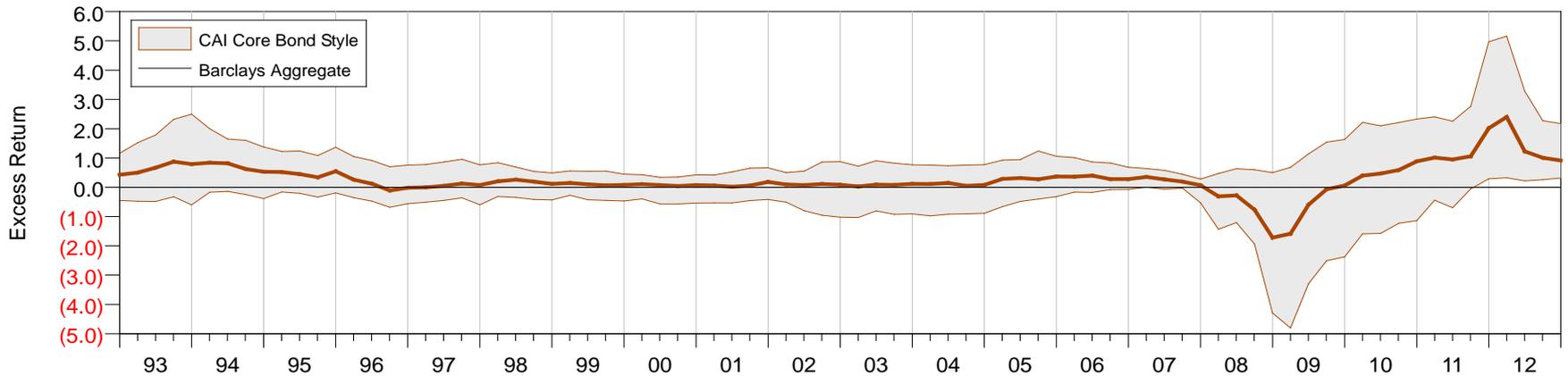
Core Bond Style versus Barclays Aggregate

Percent of Three-Year periods where Manager Beat Benchmark by more than Hurdle – by Percentile

Hurdle	0.20%	0.25%	0.30%	0.35%	0.40%	0.45%	0.50%	0.55%	0.60%	0.65%
Median	46%	45%	36%	34%	28%	28%	25%	21%	19%	18%
45th Percentile	51%	48%	41%	39%	35%	30%	29%	28%	24%	20%
40th Percentile	65%	56%	49%	44%	40%	36%	33%	29%	29%	26%
35th Percentile	78%	65%	56%	48%	45%	40%	36%	35%	33%	29%
30th Percentile	89%	76%	68%	56%	50%	45%	41%	38%	36%	33%
25th Percentile	96%	89%	79%	69%	58%	54%	48%	44%	40%	38%

Average Annualized Excess Return – Median Manager: **0.28%**

Rolling 12 Quarter Excess Return relative to Barclays Aggregate for 20 Years ended December 31, 2012



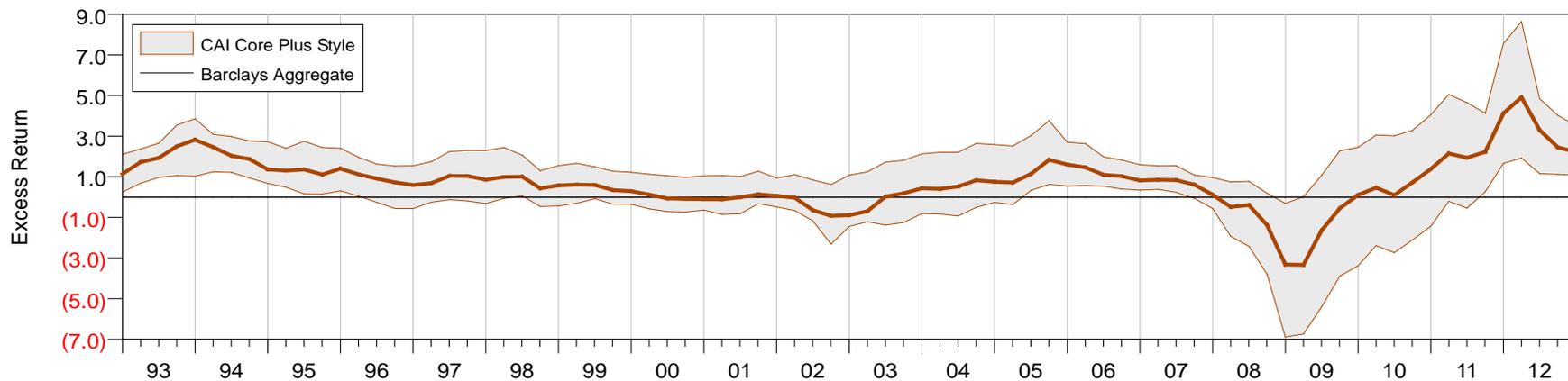
Core Plus Bond Style versus Barclays Aggregate

Percent of Three-Year periods where Manager Beat Benchmark by more than Hurdle – by Percentile

Hurdle	0.20%	0.25%	0.30%	0.35%	0.40%	0.45%	0.50%	0.55%	0.60%	0.65%
Median	69%	69%	68%	66%	66%	63%	61%	60%	59%	54%
45th Percentile	73%	71%	69%	69%	69%	68%	65%	64%	63%	60%
40th Percentile	76%	74%	74%	73%	73%	71%	70%	68%	68%	66%
35th Percentile	81%	80%	76%	75%	74%	74%	74%	73%	71%	68%
30th Percentile	84%	83%	83%	83%	80%	79%	76%	75%	75%	73%
25th Percentile	90%	88%	88%	88%	85%	83%	83%	80%	78%	76%

Average Annualized Excess Return – Median Manager: **0.76%**

Rolling 12 Quarter Excess Return relative to Barclays Aggregate for 20 Years ended December 31, 2012



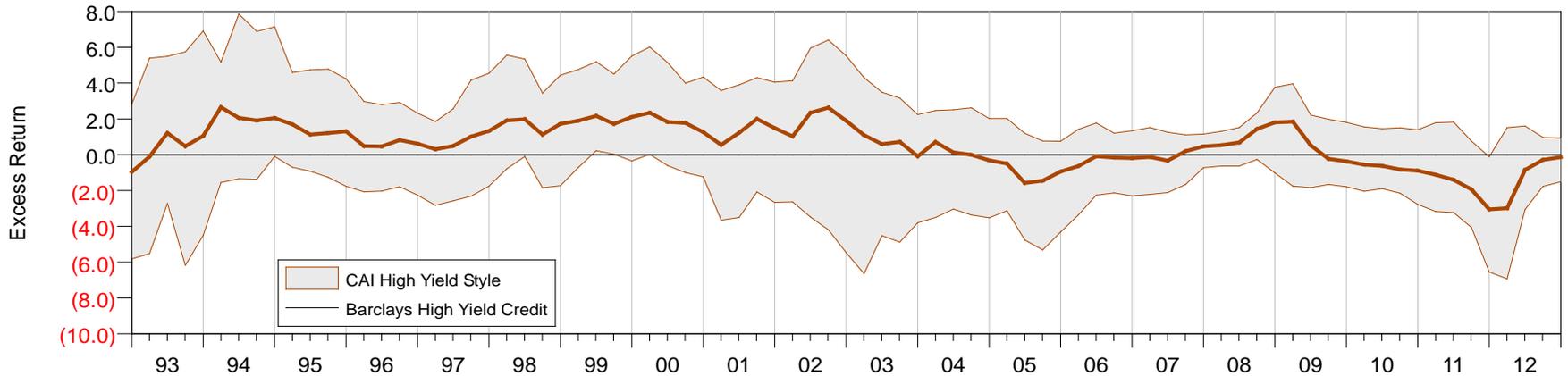
High Yield Style versus Barclays High Yield Credit

Percent of Three-Year periods where Manager Beat Benchmark by more than Hurdle – by Percentile

Hurdle	0.20%	0.25%	0.30%	0.35%	0.40%	0.45%	0.50%	0.55%	0.60%	0.65%
Median	64%	63%	63%	61%	61%	61%	55%	53%	50%	49%
45th Percentile	66%	64%	63%	63%	63%	63%	63%	63%	58%	58%
40th Percentile	71%	70%	68%	66%	65%	65%	65%	65%	64%	60%
35th Percentile	75%	74%	74%	71%	70%	68%	66%	66%	65%	65%
30th Percentile	85%	79%	78%	74%	74%	73%	70%	69%	68%	68%
25th Percentile	88%	88%	88%	88%	84%	81%	79%	78%	76%	73%

Average Annualized Excess Return – Median Manager: **0.58%**

Rolling 12 Quarter Excess Return relative to Barclays High Yield Credit for 20 Years ended December 31, 2012



The ARMB's Experience

One Year Attribution - 2012

One Year Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	30%	27%	14.81%	16.42%	(0.47%)	0.09%	(0.38%)
Fixed-Income	17%	16%	5.00%	3.19%	0.31%	(0.13%)	0.18%
Real Assets	16%	16%	9.82%	10.39%	(0.12%)	(0.02%)	(0.15%)
Global Equity ex US	21%	23%	17.09%	17.39%	(0.04%)	(0.27%)	(0.31%)
Private Equity	9%	8%	14.04%	16.63%	(0.27%)	0.09%	(0.18%)
Absolute Return	4%	6%	4.75%	5.11%	(0.02%)	0.13%	0.11%
Cash Equiv	3%	4%	0.50%	0.11%	0.01%	0.15%	0.16%
Total			11.81%	= 12.38%	+ (0.59%)	+ 0.03%	(0.56%)

Source: Callan

2012 Domestic Equity Performance vs. Russell 3000

Domestic Equity Return	14.81%
Russell 3000 Return	<u>16.42%</u>
Relative Performance	-1.61%

Source: Callan

Domestic Equity Pool

Large Cap

RCM Capital Management

Lazard Asset Management

McKinley Capital Management

Relational Investors

Barrow, Hanley, Mewhinney & Strauss

Quantitative Management Associates

ARMB Equity Yield Strategy

SSgA Futures Large Cap

SSgA Russell 200

SSgA Russell 1000 Growth

SSgA Russell 1000 Value

Buy Write

Analytic/SSgA Buy Write

RCM Buy Write

Small Cap

Luther King Capital Management

Jennison Associates

Lord, Abbett & Co.

Barrow, Hanley, Mewhinney & Strauss

Frontier Capital Management

Victory Capital Management

Lord, Abbett & Co. Micro Cap

DePrince, Race & Zollo

SSgA Futures Small Cap

SSgA Russell 2000 Growth

SSgA Russell 2000 Value

Convertible Bonds

Advent Capital Management

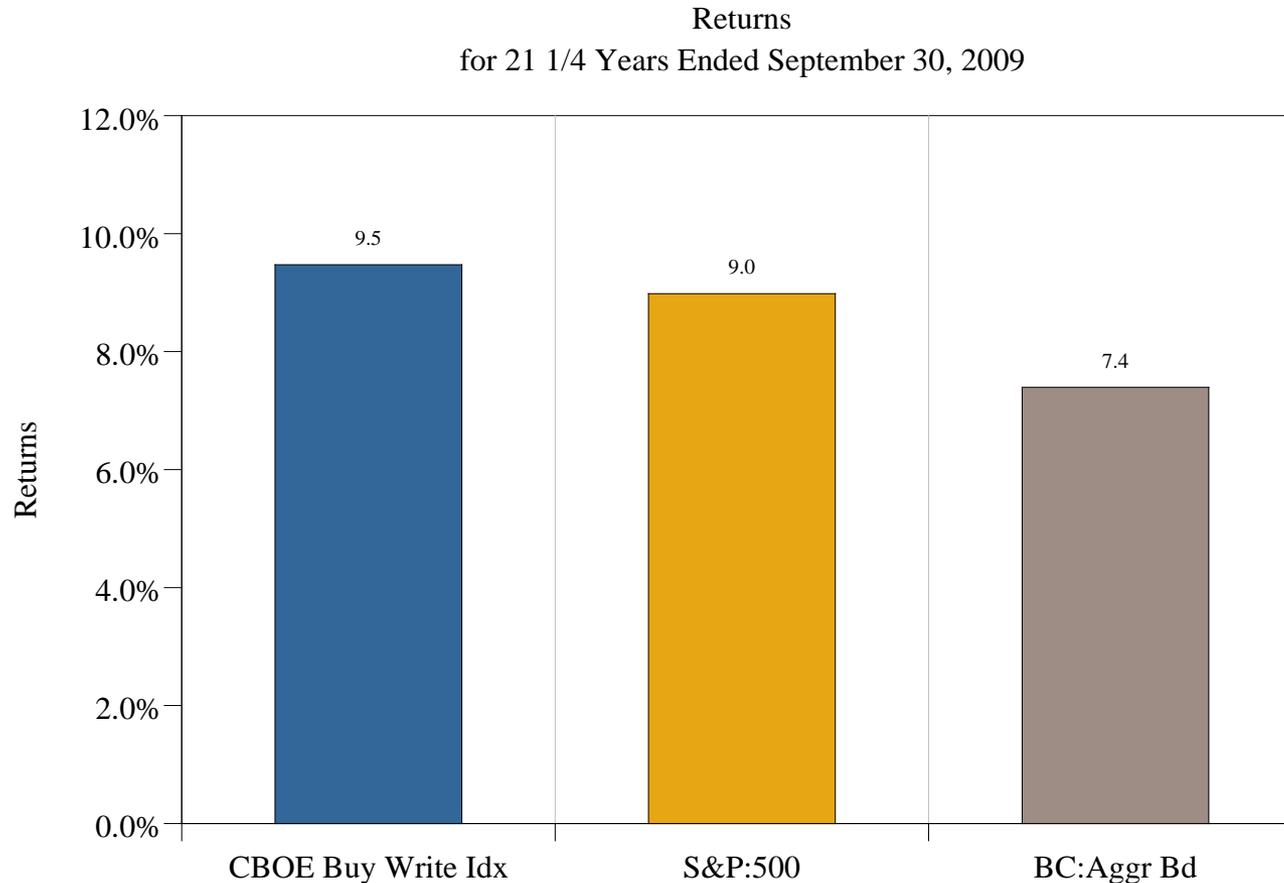
Buy Write Summary

Gary Bader
September 24, 2010

Overview Explanation & Issues

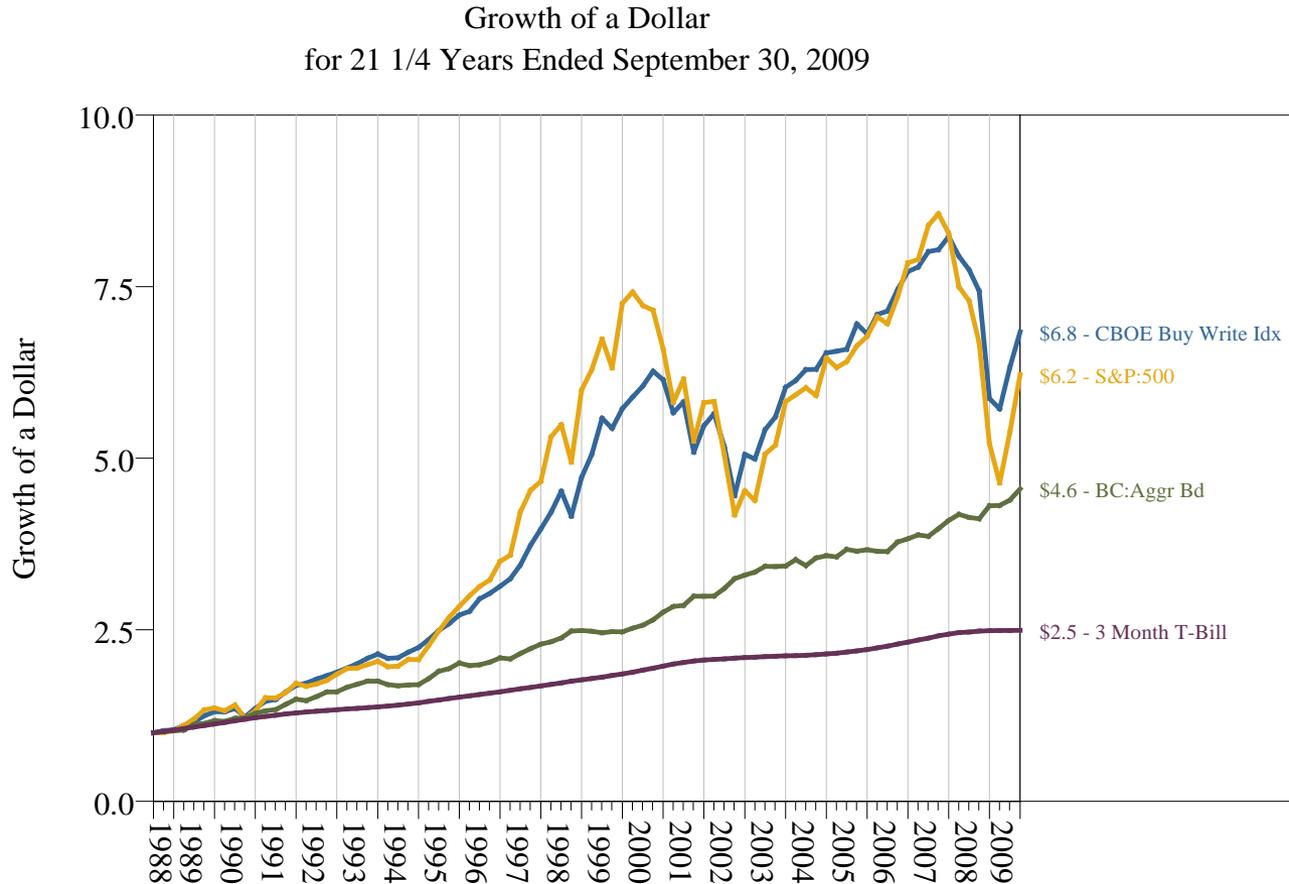
- We analyzed the long-term performance record and concluded that a Buy-Write Strategy hypothetically has delivered equity-like total returns at lower volatility.
- As should be expected, results over intermediate-term spans are highly time period sensitive. During periods of generally rising prices, the buy-write approach tends to lag a passive equity index. Conversely, during periods of flat or declining prices, the buy-write strategy tends to outperform.
- The graphs that follow illustrate and quantify both the long-term record and intermediate term results. We caution that ARMB should only proceed if the Board can withstand 3-year or longer periods of marked underperformance.

Cumulative Returns



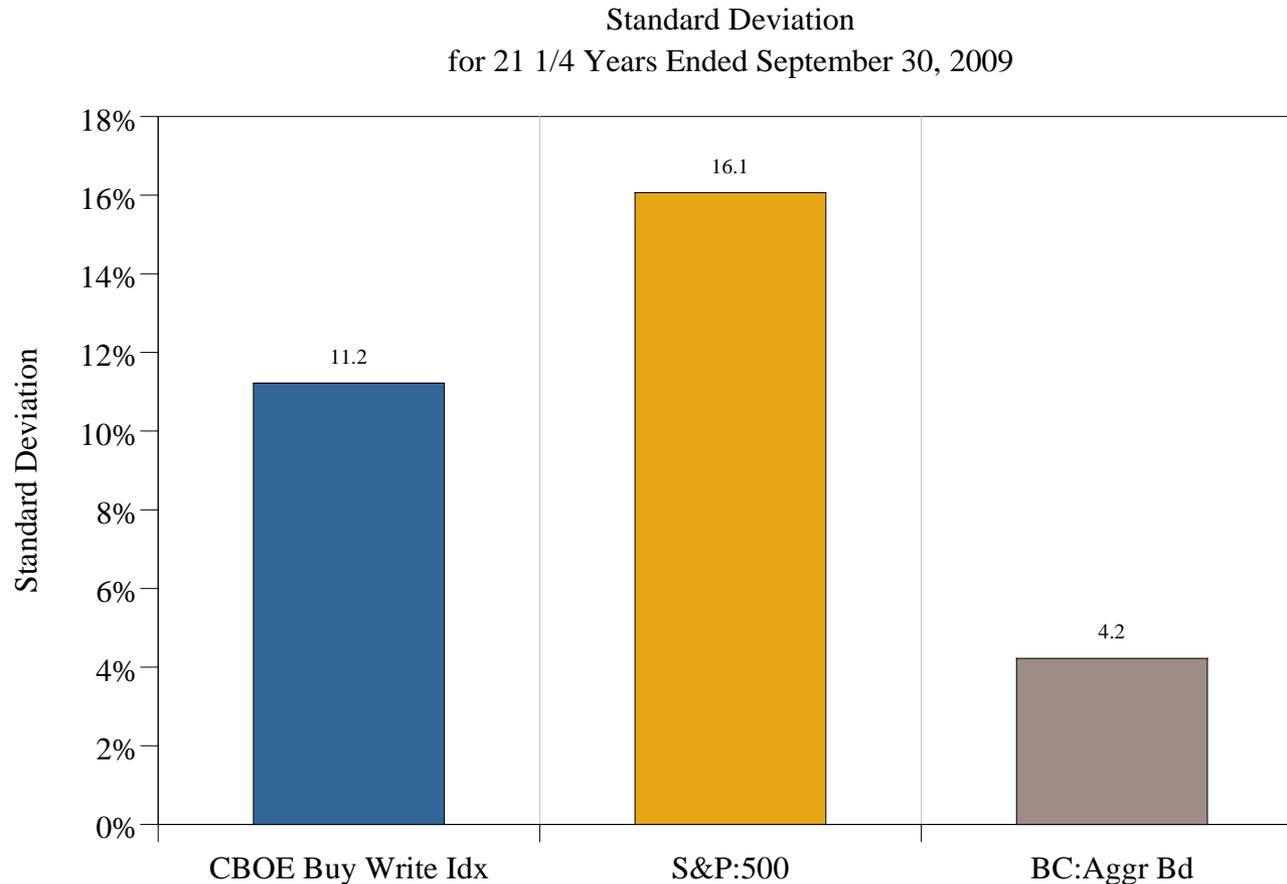
Over the longest period available the annualized return for the Buy-Write Strategy actually exceeded the S&P 500 return and both exceeded the bond market return.

Long-Term Return Comparison



This cumulative return graph illustrates that the Buy-Write Strategy has delivered equity-like long-term returns.

Long-Term Risk (Standard Deviation)



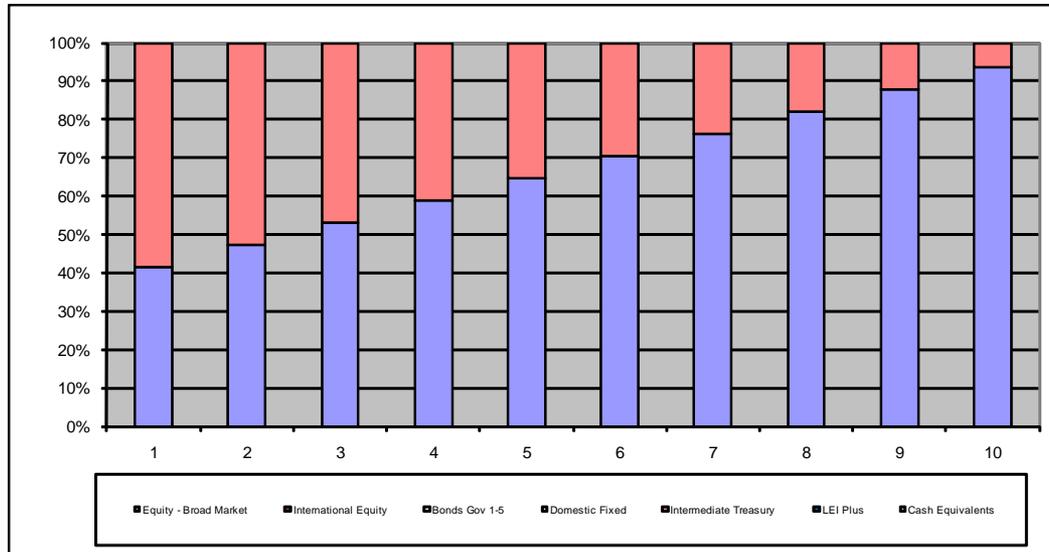
The annualized standard deviation of returns for the Buy-Write Strategy was substantially lower than that for the S&P 500.

Optimization without Buy Write Allocation

SPX New Standard Deviation

2010 Asset Classes	Constraints		Asset Mix Alternatives									
	Min	Max	1	2	3	4	5	6	7	8	9	10
Equity - Broad Market	0.00%	100.00%	41.53%	47.33%	53.13%	58.93%	64.73%	70.53%	76.33%	82.13%	87.94%	93.74%
International Equity	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Bonds Gov 1-5	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Domestic Fixed	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Intermediate Treasury	0.00%	100.00%	58.47%	52.67%	46.87%	41.07%	35.27%	29.47%	23.67%	17.87%	12.06%	6.26%
LEI Plus	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Cash Equivalents	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Totals			100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Target Return	6.00%	6.25%	6.50%	6.75%	7.00%	7.25%	7.50%	7.75%	8.00%	8.25%
Projected Return	6.00%	6.25%	6.50%	6.75%	7.00%	7.25%	7.50%	7.75%	8.00%	8.25%
Projected Risk	6.62%	7.68%	8.76%	9.86%	10.96%	12.08%	13.20%	14.33%	15.45%	16.59%
1 Yr. Probability of Loss	18.22%	20.78%	22.90%	24.67%	26.16%	27.42%	28.50%	29.43%	30.24%	30.94%
5 Yr. Probability of Loss	2.13%	3.43%	4.85%	6.28%	7.67%	8.98%	10.20%	11.32%	12.35%	13.30%
10 Yr. Probability of Loss	0.21%	0.50%	0.95%	1.52%	2.17%	2.88%	3.62%	4.36%	5.08%	5.79%

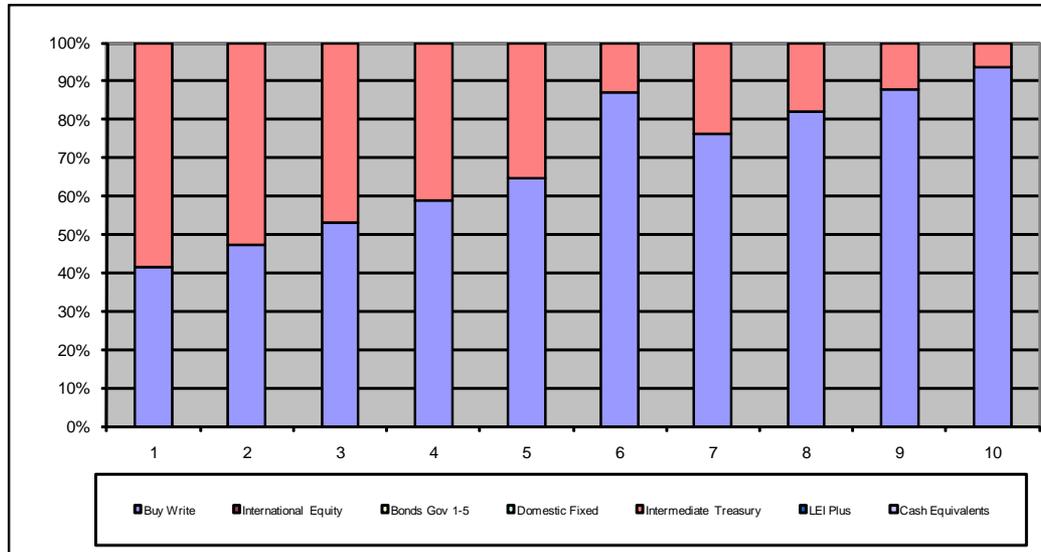


Optimization with Buy Write Allocation

Buy Write Return 2010

2010 Asset Classes	Constraints		Asset Mix Alternatives									
	Min	Max	1	2	3	4	5	6	7	8	9	10
Buy Write	0.00%	100.00%	41.53%	47.33%	53.13%	58.93%	64.73%	87.24%	76.33%	82.13%	87.93%	93.74%
International Equity	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Bonds Gov 1-5	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Domestic Fixed	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Intermediate Treasury	0.00%	100.00%	58.47%	52.67%	46.87%	41.07%	35.27%	12.76%	23.67%	17.87%	12.07%	6.26%
LEI Plus	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Cash Equivalents	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Totals			100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%	100.00%

Target Return	6.00%	6.25%	6.50%	6.75%	7.00%	7.97%	7.50%	7.75%	8.00%	8.25%
Projected Return	6.00%	6.25%	6.50%	6.75%	7.00%	7.97%	7.50%	7.75%	8.00%	8.25%
Projected Risk	4.51%	5.26%	6.05%	6.86%	7.69%	10.96%	9.37%	10.21%	11.07%	11.92%
1 Yr. Probability of Loss	9.15%	11.75%	14.14%	16.27%	18.13%	23.36%	21.16%	22.40%	23.49%	24.45%
5 Yr. Probability of Loss	0.15%	0.40%	0.82%	1.39%	2.09%	5.20%	3.67%	4.49%	5.30%	6.09%
10 Yr. Probability of Loss	0.00%	0.01%	0.03%	0.09%	0.20%	1.08%	0.57%	0.82%	1.11%	1.43%



Creation of Alternative Equity Styles Asset Class

ALASKA RETIREMENT MANAGEMENT BOARD

SUBJECT: Creation of "Other" Asset Class ACTION: X

DATE: February 13, 2013 INFORMATION: _____

BACKGROUND:

The Alaska Retirement Management Board (ARMB) currently has seven asset class buckets designed to group investments based on similar characteristics and performance patterns. Benchmarks are assigned to each asset class and performance is monitored on both an asset class and individual mandate level. ARMB's current asset class structure contains: Broad Domestic Equity, Global Equity Ex-US, Private Equity, Real Assets, Absolute Return, Fixed Composite, and Short-Term Fixed Income.

STATUS:

The creation of an additional asset class called "Other" for the purpose of aggregating investments that do not fit into ARMB's current asset class structure would allow for a cleaner performance and characteristic analysis within ARMB's existing asset classes and would isolate those investments with unique characteristics and benchmarks.

The "Other" Asset Class would include RCM Buy Write, SSgA/Analytic Buy Write, Advent Capital's Convertible Bond strategy, Relational Investors, and ARMB's internally-managed dividend strategy. Given the variety of investments, performance analysis for the "Other" Asset Class would be benchmarked against 50% S&P 500 Index, 30% CBOE Buy Write Index, and 20% Bank of America Yield Alternatives Index.

RECOMMENDATION:

Effective July 1, 2013, the Alaska Retirement Management Board create a new asset class called "Other" to house current and future investments that do not properly fit into ARMB's current asset class structure.

2012 Domestic Equity Performance vs. Russell 3000

Domestic Equity Return	14.81%
Russell 3000 Return	<u>16.42%</u>
Relative Performance	-1.61%

Source: Callan

Alaska Retirement Management Board

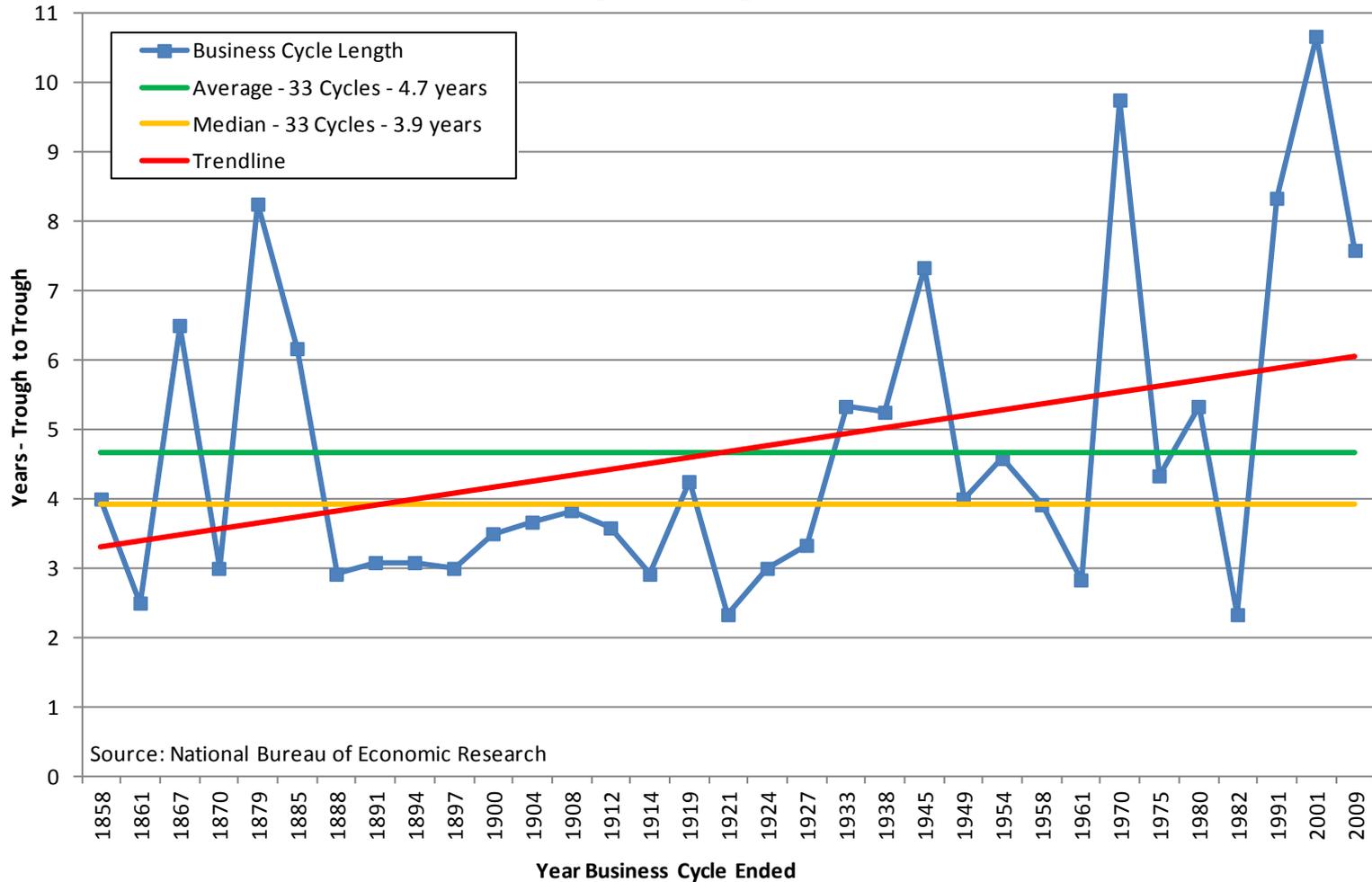
Business and Stock Market Cycles

National Bureau of Economic Research - Business Cycles

<u>BUSINESS CYCLE</u>		<u>DURATION IN MONTHS</u>			
<u>REFERENCE DATES</u>					
Peak	Trough	Contraction	Expansion	Cycle	
<i>Quarterly dates are in parentheses</i>		<i>Peak to Trough</i>	<i>Previous trough to this peak</i>	<i>Trough from Previous Trough</i>	<i>Peak from Previous Peak</i>
	December 1854 (IV)	--	--	--	--
June 1857(II)	December 1858 (IV)	18	30	48	--
October 1860(III)	June 1861 (III)	8	22	30	40
April 1865(I)	December 1867 (I)	32	46	78	54
June 1869(II)	December 1870 (IV)	18	18	36	50
October 1873(III)	March 1879 (I)	65	34	99	52
March 1882(I)	May 1885 (II)	38	36	74	101
March 1887(II)	April 1888 (I)	13	22	35	60
July 1890(III)	May 1891 (II)	10	27	37	40
January 1893(I)	June 1894 (II)	17	20	37	30
December 1895(IV)	June 1897 (II)	18	18	36	35
June 1899(III)	December 1900 (IV)	18	24	42	42
September 1902(IV)	August 1904 (III)	23	21	44	39
May 1907(II)	June 1908 (II)	13	33	46	56
January 1910(I)	January 1912 (IV)	24	19	43	32
January 1913(I)	December 1914 (IV)	23	12	35	36
August 1918(III)	March 1919 (I)	7	44	51	67
January 1920(I)	July 1921 (III)	18	10	28	17
May 1923(II)	July 1924 (III)	14	22	36	40
October 1926(III)	November 1927 (IV)	13	27	40	41
August 1929(III)	March 1933 (I)	43	21	64	34
May 1937(II)	June 1938 (II)	13	50	63	93
February 1945(I)	October 1945 (IV)	8	80	88	93
November 1948(IV)	October 1949 (IV)	11	37	48	45
July 1953(II)	May 1954 (II)	10	45	55	56
August 1957(III)	April 1958 (II)	8	39	47	49
April 1960(II)	February 1961 (I)	10	24	34	32
December 1969(IV)	November 1970 (IV)	11	106	117	116
November 1973(IV)	March 1975 (I)	16	36	52	47
January 1980(I)	July 1980 (III)	6	58	64	74
July 1981(III)	November 1982 (IV)	16	12	28	18
July 1990(III)	March 1991(I)	8	92	100	108
March 2001(I)	November 2001 (IV)	8	120	128	128
December 2007 (IV)	June 2009 (II)	18	73	91	81
Average, all cycles:					
1854-2009 (33 cycles)		17.5	38.7	56.2	56.4
1854-1919 (16 cycles)		21.6	26.6	48.2	48.9
1919-1945 (6 cycles)		18.2	35.0	53.2	53.0
1945-2009 (11 cycles)		11.1	58.4	69.5	68.5

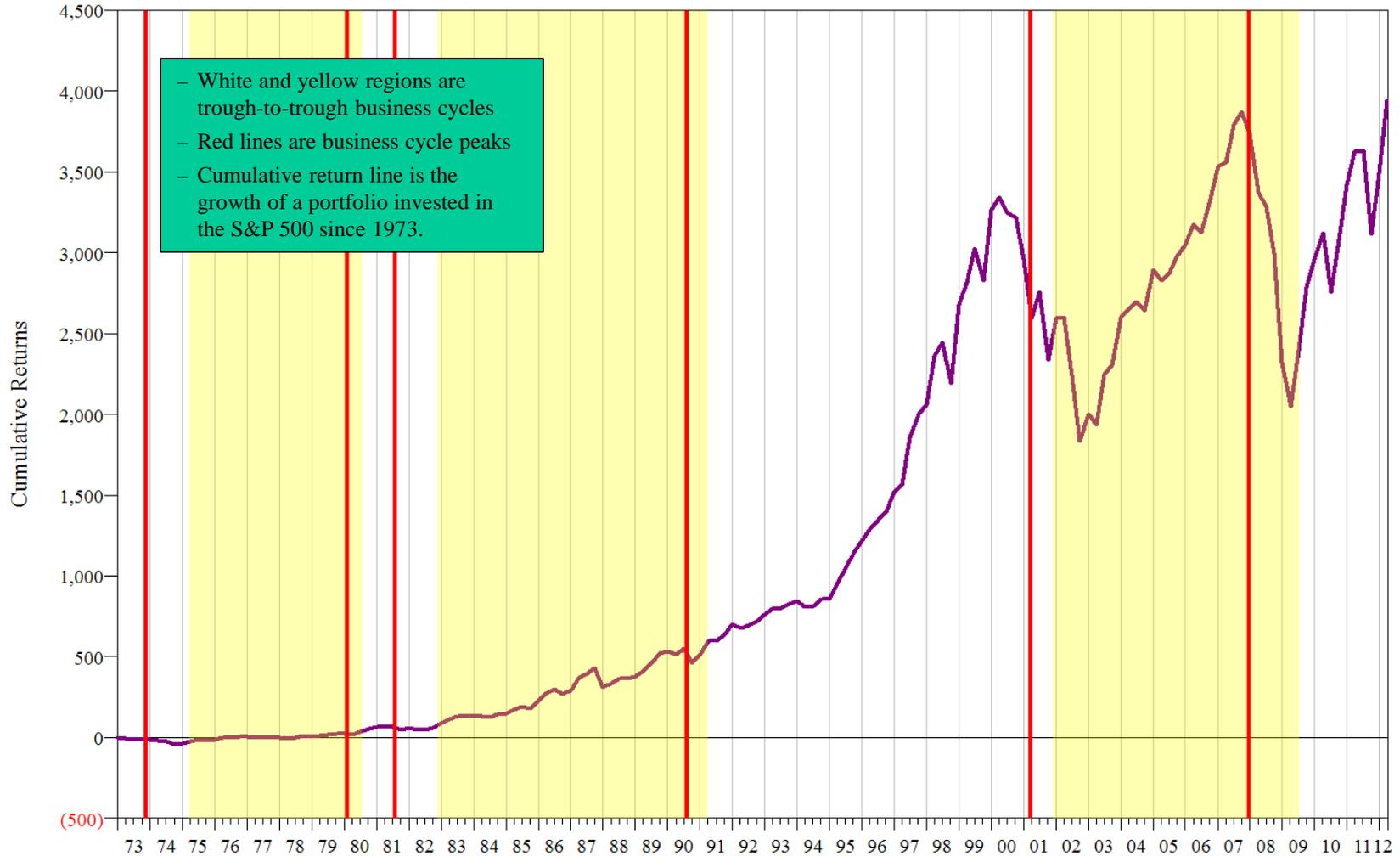
Business Cycles 1854-2009

Business Cycle Length 1854-2009



Business Cycles ~ Stock Market Cycles

S&P 500 Total Return
Cumulative Returns
for 39 1/4 Years Ended March 31, 2012



Watch List Guidelines Revision

ALASKA RETIREMENT MANAGEMENT BOARD

SUBJECT: IFS Report Recommendation ACTION: X
Task Area B.8., Recommendation #2
Watch List Guidelines INFORMATION: _____
DATE: September 20, 2012

BACKGROUND

AS 37.10.220(a) (11) and (12) require that the Alaska Retirement Management Board (Board) contract for an independent audit of the state's performance consultant not less than once every four years, obtain an external performance review to evaluate the investment policies of each fund entrusted to the Board and report the results of the review. The Board entered into a contract with Independent Fiduciary Services (IFS) to provide the required reviews. IFS presented its final report at the December 2, 2010 Board meeting. At the conclusion of the presentation, CIO Gary Bader advised the trustees that each individual recommendation would be brought before the trustees at future meetings with a staff recommendation on action or implementation.

STATUS – IFS Task Area B.8. Watch List Guidelines

IFS Report Recommendation #2, page 75 states:

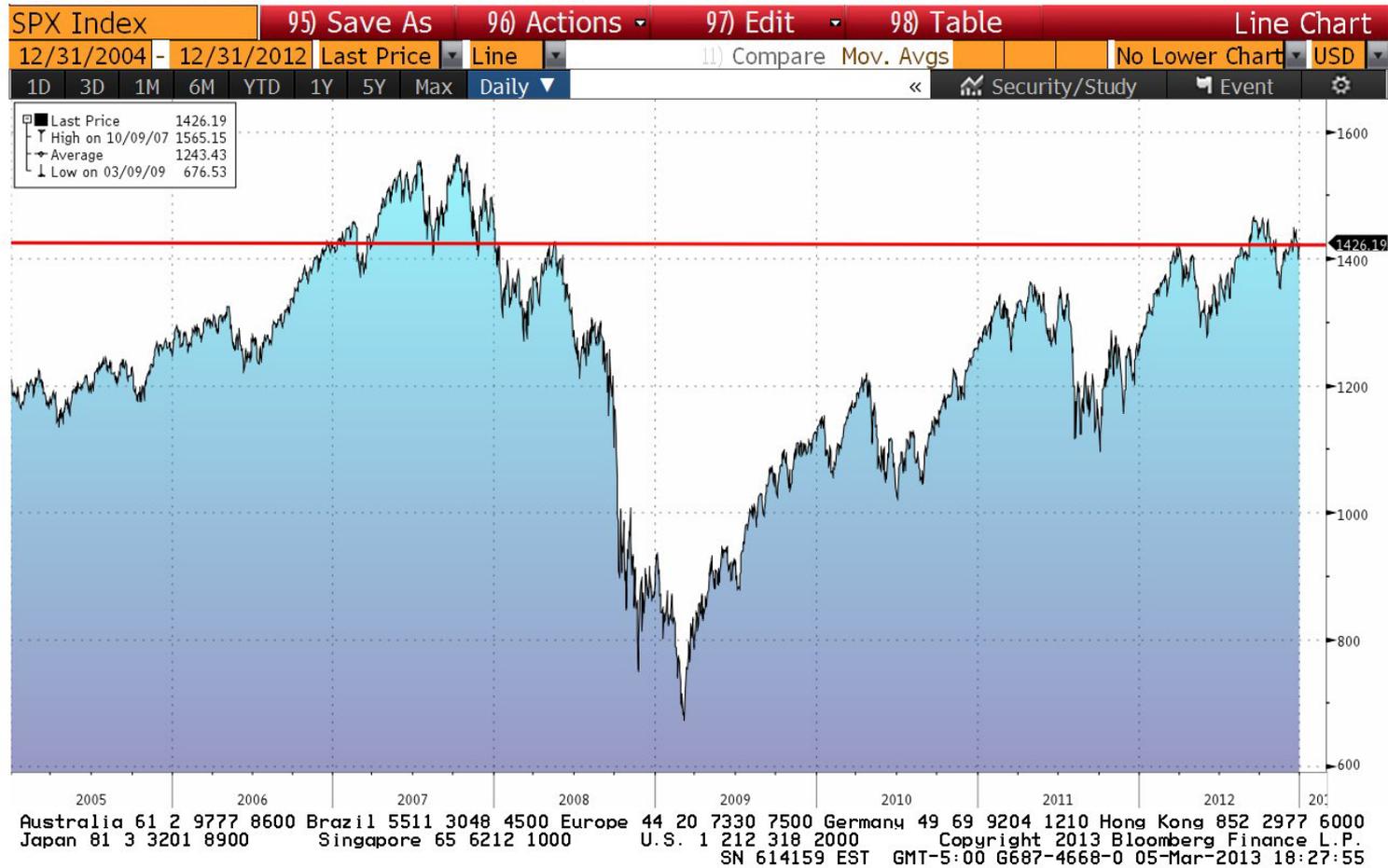
Develop guidelines or procedures that state how a manager will be placed on the Watch List and the required actions/monitoring process for managers on the Watch List that should be followed by ARMB and/or investment staff.

Staff performed an analysis of business cycles and manager excess returns. This analysis suggests the review timeframe should be expanded from 3 years to 6 years.

RECOMMENDATION

The Alaska Retirement Management Board approve Resolution 2012-25 which implements the IFS recommendation and amends the ARMB Manager Watch List Guidelines to review managers based on a 6-year performance history relative to the mandate's benchmark and peer group.

Equity Market Cycle



Source: Bloomberg

Managers with ARMB More than Five Years

ACTIVE LARGE CAP EQUITY MANAGERS				
Inception to Date Returns as of 12/31/12	Annualized Manager Return	Annualized Benchmark Return	Return Difference	Inception Date
Relational Investors Large Cap <i>S&P 500 Index (a)</i>	1.72%	4.62%	-2.90%	Q3 2005
RCM Capital Management Large Cap <i>S&P 500 Index</i>	8.71%	7.63%	1.08%	Q3 1995
McKinley Capital Large Cap <i>Russell 1000 Growth Index (b)</i>	5.29%	4.74%	0.55%	Q1 1998
Quantitative Management Associates Large Cap <i>Russell 1000 Value Index</i>	0.47%	-0.59%	1.06%	Q3 2007
Barrow, Hanley, Mewhinney & Strauss Large Cap <i>Russell 1000 Value Index</i>	1.01%	-0.59%	1.60%	Q3 2007

Source: Callan Associates

Returns are gross of fees.

(a) Relational's return is net of fees.

(b) Benchmark changed from the Russell 1000 Index effective 11/1/12.

Managers with ARMB More than Five Years

ACTIVE SMALL CAP EQUITY MANAGERS

Inception to Date Returns as of 12/31/12

	Annualized Manager Return	Annualized Benchmark Return	Return Difference	Inception Date
Lord Abbett Small Cap <i>Russell 2000 Index</i>	4.91%	5.26%	-0.35%	Q3 2005
Jennison Associates Small Cap <i>Russell 2000 Index</i>	7.59%	5.26%	2.33%	Q3 2005
Luther King Small Cap <i>Russell 2000 Index</i>	6.85%	5.26%	1.59%	Q3 2005

Source: Callan Associates

Returns are gross of fees.

Managers with ARMB More than Five Years

ACTIVE INTERNATIONAL EQUITY MANAGERS				
Inception to Date Returns as of 12/31/12				
	Annualized Manager Return	Annualized Benchmark Return	Return Difference	Inception Date
Brandes International <i>MSCI EAFE Index</i>	8.51%	3.75%	4.76%	Q4 1997
Capital Guardian International <i>MSCI EAFE Index</i>	7.18%	6.26%	0.92%	Q4 2001
Lazard Asset Management Global <i>MSCI ACWI Index (a)</i>	7.64%	6.94%	0.70%	Q3 1993
McKinley Capital International <i>MSCI ACWI Ex-US Growth Index (b)</i>	3.57%	3.88%	-0.31%	Q3 2005
Lazard Asset Management Emerging Markets <i>MSCI Emerging Markets Index</i>	1.27%	-0.61%	1.88%	Q1 2008

Source: Callan Associates

Returns are gross of fees.

(a) Benchmark changed from the MSCI World Index effective 10/1/10.

(b) Benchmark changed from the MSCI EAFE Index effective 11/1/12.

Passive Mandates with More than Five Years

PASSIVE LARGE CAP EQUITY MANAGERS				
Inception to Date Returns as of 12/31/12	Annualized Manager Return	Annualized Benchmark Return	Return Difference	Inception Date
SSgA Russell 1000 Growth <i>Russell 1000 Growth Index</i>	4.61%	4.51%	0.10%	Q2 2007
SSgA Russell 1000 Value <i>Russell 1000 Value Index</i>	0.48%	0.27%	0.21%	Q2 2007
SSgA Russell 200 <i>Russell Top 200 Index</i>	2.25%	2.13%	0.12%	Q2 2007
PASSIVE SMALL CAP EQUITY MANAGERS				
Inception to Date Returns as of 12/31/12	Annualized Manager Return	Annualized Benchmark Return	Return Difference	Inception Date
SSgA Russell 2000 Growth <i>Russell 2000 Growth Index</i>	2.61%	2.90%	-0.29%	Q3 2007
SSgA Russell 2000 Value <i>Russell 2000 Value Index</i>	0.10%	0.62%	-0.52%	Q3 2007

Source: Callan Associates
Returns are gross of fees.

Survivorship Bias

- **There is an inherent survivorship bias which arises when analyzing data containing only current managers while excluding managers that have previously been terminated for poor performance or other reasons.**

Unequal Weight Returns Relative to Respective Index

(for all managers over the last six years)

Active Manager - Allocation Weight	Benchmark	\$ Difference
Barrow, Hanley, Mewhinney & Strauss – Large Cap	Russell 1000 Value	7,521,492
Barrow, Hanley, Mewhinney & Strauss – Small Cap (a)	Russell 2000 Value	125,584
Brandes – International	MSCI EAFE	(19,854,826)
Capital Guardian – International	MSCI EAFE	50,806,348
Capital Guardian – Large Cap (b)	S&P 500	(15,484,724)
Capital Guardian – Emerging Markets (c)	MSCI Emerging Markets	(34,072,540)
DePrince, Race & Zollo – Micro Cap (d)	Russell Microcap Value	(688,226)
Eaton Vance – Emerging Markets (e)	MSCI Emerging Markets	(3,070,539)
Frontier Capital Management – Small Cap (f)	Russell 2000 Value	7,948,699
J.P. Morgan – Emerging Markets (g)	MSCI Emerging Markets	1,816,702
Jennison Associates – Small Cap	Russell 2000	20,120,895
Lazard – Emerging Markets (h)	MSCI Emerging Markets	20,956,097
Lazard – Global	MSCI ACWI (i)	52,617,033

Unequal Weight Returns Relative to Respective Index

(for all managers over the last six years)

Active Manager - Allocation Weight	Benchmark	\$ Difference
Lord Abbett & Co. – Small Cap	Russell 2000	12,290,422
Lord Abbett & Co. – Micro Cap (j)	Russell Microcap Growth	(4,972,270)
Luther King Capital Management – Small Cap	Russell 2000	6,338,425
McKinley Capital – International	MSCI EAFE (k)	(7,609,635)
McKinley Capital – Large Cap	Russell 1000 (k)	36,394,729
Mondrian – International Small Cap (l)	MSCI EAFE Small Cap	13,198,592
Quantitative Management Associates – Large Cap	Russell 1000 Value	5,943,677
RCM Capital Management – Large Cap	S&P 500	26,668,750
Relational Investors – Large Cap (net)	S&P 500	(74,728,351)
Schroder – International Small Cap (m)	MSCI EAFE Small Cap	(3,282,352)
SSgA – International Equity (n)	MSCI EAFE	(11,861,757)
Turner Investment Partners – Small Cap (o)	Russell 2000	(5,529,178)
Victory Capital Management – Small Cap (p)	Russell 2000 Value	(2,079,430)
	Total	79,513,617

Relative Performance - Footnotes

- (a) Barrow Hanley Small Cap first full quarter 6/30/11.
- (b) Terminated. Last full performance quarter 3/31/10.
- (c) Terminated. Last full performance quarter 9/31/12.
- (d) DePrince first full quarter 6/30/11.
- (e) Eaton Vance first full quarter 6/30/08. Mutual Fund Performance used for entire period. ARMB transferred into Mutual Fund 1Q09.
- (f) Frontier first full quarter 3/31/12.
- (g) Terminated. Last full performance quarter 3/31/08.
- (h) Lazard first full quarter 3/31/08.
- (i) Lazard Global benchmark change from World Index to ACWI effective 10/1/10.
- (j) Lord Abbett Microcap first full quarter 6/30/11.
- (k) McKinley benchmarks - domestic changed to Russell 1000 Growth effective 11/1/12. International changed to ACWI Ex-US Growth effective 11/1/12.
- (l) Mondrian first full quarter 12/31/10.
- (m) Schroder first full quarter 12/31/10.
- (n) Terminated. Last full performance quarter 9/30/09.
- (o) Terminated. Last full performance quarter 12/31/09.
- (p) Victory first full quarter 9/30/12.

Equal Weight Returns Relative to Respective Index

(for all managers over the last six years)

Active Manager - Equal Weight	Benchmark	\$ Difference
Barrow, Hanley, Mewhinney & Strauss – Large Cap	Russell 1000 Value	16,189,109
Barrow, Hanley, Mewhinney & Strauss – Small Cap (a)	Russell 2000 Value	(656,822)
Brandes – International	MSCI EAFE	(6,656,425)
Capital Guardian – International	MSCI EAFE	39,437,986
Capital Guardian – Large Cap (b)	S&P 500	(4,367,678)
Capital Guardian – Emerging Markets (c)	MSCI Emerging Markets	(26,011,543)
DePrince, Race & Zollo – Micro Cap (d)	Russell Microcap Value	44,404
Eaton Vance – Emerging Markets (e)	MSCI Emerging Markets	(13,142,759)
Frontier Capital Management – Small Cap (f)	Russell 2000 Value	7,708,393
J.P. Morgan – Emerging Markets (g)	MSCI Emerging Markets	5,664,819
Jennison Associates – Small Cap	Russell 2000	18,172,582
Lazard – Emerging Markets (h)	MSCI Emerging Markets	44,953,614
Lazard – Global	MSCI ACWI (i)	32,183,160

Equal Weight Returns Relative to Respective Index

(for all managers over the last six years)

Active Manager - Equal Weight	Benchmark	\$ Difference
Lord Abbett & Co. – Small Cap	Russell 2000	15,171,242
Lord Abbett & Co. – Micro Cap (j)	Russell Microcap Growth	(6,878,341)
Luther King Capital Management – Small Cap	Russell 2000	9,291,821
McKinley Capital – International	MSCI EAFE (k)	2,895,431
McKinley Capital – Large Cap	Russell 1000 (k)	30,461,051
Mondrian – International Small Cap (l)	MSCI EAFE Small Cap	45,663,664
Quantitative Management Associates – Large Cap	Russell 1000 Value	13,537,231
RCM Capital Management – Large Cap	S&P 500	21,338,377
Relational Investors – Large Cap (net)	S&P 500	(44,791,901)
Schroder – International Small Cap (m)	MSCI EAFE Small Cap	(11,605,319)
SSgA – International Equity (n)	MSCI EAFE	(16,541,820)
Turner Investment Partners – Small Cap (o)	Russell 2000	(3,802,665)
Victory Capital Management – Small Cap (p)	Russell 2000 Value	(2,975,658)
	Total	165,281,956

Six Year Net Gain from Active Management – Equal Weight

Active Management Gain:	\$165,281,956
Active Management Fees:	<u>\$111,105,321</u>
Net Result from Active Management:	\$54,176,635

Active Management in Bear Market

One Year Cumulative Attribution Effects

Asset Class	Effective Weight	Avg Trgt Weight	Actual Return	Target Return	Manager Effect	Asset Allocation
Domestic Equity	33%	35%	(37.22%)	(38.46%)	0.44%	0.15%
Fixed-Income	18%	18%	(1.91%)	0.52%	(0.33%)	(0.07%)
High Yield	1%	1%	-	-	(0.00%)	(0.02%)
Real Assets	16%	14%	(21.14%)	(7.87%)	(1.90%)	0.44%
International Equity	18%	19%	(43.87%)	(46.84%)	0.57%	0.36%
Int'l Fixed-Income	1%	1%	-	-	(0.01%)	(0.01%)
Private Equity	9%	7%	(17.56%)	(40.55%)	2.00%	(0.30%)
Absolute Return	4%	6%	(14.58%)	6.33%	(0.66%)	(0.37%)
Other	1%	1%	-	-	0.02%	(0.01%)

Total	(27.22%) = (27.50%) + 0.09% + 0.19%
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March 31, 2009

Source: Callan

Active Share:

Difference of portfolio share holdings and the share holdings of the portfolio's benchmark.

$$Active\ Share = \frac{1}{2} \sum_{i=1}^N |w_{equity\ portfolio, i} - w_{index, i}|$$

Cremers, Martijn and Petajisto, Antti, How Active is Your Fund Manager? A New Measure That Predicts Performance (March 31, 2009). AFA 2007 Chicago Meetings Paper; EFA 2007 Ljubljana Meetings Paper; Yale ICF Working Paper No. 06-14. Available at SSRN: <http://ssrn.com/abstract=891719> or <http://dx.doi.org/10.2139/ssrn.891719>

Manager Active Share – 6 Year

Manager	Active Share	6 Year Relative Return	Since Inception Relative Return
Large Cap			
Relational Large Cap*	95.61%	-3.02%	-2.90%
RCM Large Cap	73.83%	1.48%	1.08%
BHMS Large Cap	73.47%	-	1.60%
McKinley Large Cap	70.62%	1.35%	0.55%
QMA Large Cap	44.15%	-	1.06%
Small Cap			
BHMS Small Cap Value	97.88%	-	-0.82%
Frontier Small Cap Value	95.47%	-	7.79%
Lord Abbett Small Cap	95.15%	0.68%	-0.35%
Luther King Small Cap	92.07%	1.34%	1.59%
Jennison Small Cap	91.84%	2.40%	2.33%
DePrince Micro Cap	91.42%	-	-1.25%
Victory Small Cap Value	89.36%	-	-2.06%
Lord Abbett Micro Cap	88.28%	-	-3.57%

Source: Callan Associates

Returns are gross of fees as of 12/31/12.

*Relational's returns are net of fees.

Conclusions

- Majority of our managers have exceeded their contractual benchmarks.
- Callan data indicates, on average, small cap and international managers are likely to outperform their index.
- Based on Active Share, our managers are poised to outperform.
- Active management is helpful in bear markets.

Recommended Actions

- Staff should set a target passive weight for domestic large cap of 65%.
- Staff should begin the process to equal weight managers by asset types.



**OBSERVATIONS ON INPUT AND OUTPUT
SMOOTHING METHODS:**

How do they affect the funding of defined benefit plans?



EXECUTIVE SUMMARY

The volatility of required pension contributions has been a consistent concern for sponsors of defined benefit plans. As recently as July 2012, legislators modified the law that governs contribution requirements for private single-employer defined benefit plans to reduce the effects of low interest rates on plan sponsors.¹ Deliberations about this legislation raised questions about the merits of stabilizing contribution requirements through input smoothing methods (which smooth volatile elements of pension calculations, such as interest rates or asset values) or output smoothing methods (which smooth the resulting contribution requirements).

This report begins an examination of ways to address volatility in the funding rules by making a few general observations regarding the similarities and differences between input and output smoothing mechanisms. The report notes that:

- In general, the choice between input and output smoothing methodologies does not directly affect the solvency of defined benefit plans or the predictability of statutory requirements.
- An input method smoothes a single source of volatility and may affect multiple statutory requirements, but smoothing the effects of other sources of volatility necessitates additional smoothing methods. For example, an asset smoothing method stabilizes the asset value used to calculate contribution and benefit restriction requirements,² but an additional smoothing method would be needed to stabilize the effects of interest rate volatility on the liabilities used to calculate these requirements.
- In contrast, an output method smoothes the effects of multiple sources of volatility for a single statutory requirement, but stabilizing other statutory requirements necessitates additional smoothing methods. So, for example, an output method that stabilizes contribution requirements smoothes the effects of asset and interest rate volatility, but an additional smoothing method would be needed to stabilize benefit restriction requirements.
- Input smoothing methodologies change the relationship between market-based and reported values of pension assets and liabilities. Users of the reported values need to understand their relationship to market-based values to ensure appropriate use of the information.

These observations have implications beyond the selection of input or output smoothing methodologies. They call attention to how smoothing may influence attitudes toward risk in the management and design of retirement programs. They also point out that smoothing complicates understanding of defined benefit plan financial positions, with the potential to mistake smoothed results for a reduction in plan risk when, in fact, smoothing methods merely spread the recognition of volatile experience into a more (perhaps) manageable pattern.

This report is not intended to advocate a position for or against the use of smoothing methodologies, or for or against the use of any particular smoothing methodology. Rather, the purpose of this research is simply to provide objective, actuarial illustrations of the differences between alternative methodologies. Further, the illustrations in this report were designed to highlight observations on the operation of input and output smoothing methodologies, and should not be construed as a full analysis of particular smoothing methods. The illustrations control numerous factors, including correlations between changes in asset and liability values and the effects of MAP-21 interest rate stabilization,³ which deserve consideration in the analysis of a specific smoothing method.

¹ The modifications were part of the Moving Ahead for Progress in the 21st Century Act (MAP-21) legislation enacted in July 2012. The Society of Actuaries published an analysis of its effects in [Proposed Pension Funding Stabilization: How Does It Affect the Single-Employer Defined Benefit System?](#)

² Many statutory requirements apply to private single-employer defined benefit plans. This report focuses on two: the requirement that plan sponsors contribute a minimum amount of cash to fund their plans and restrictions on the ability of plans to offer certain benefits as their funded level declines.

³ The illustrations were designed to negate the effects of the MAP-21 interest rate corridor. Negating the corridor provides a more neutral comparison of the illustrated smoothing alternatives, given the changing nature of the corridor and the likelihood that its effects will be temporary.

FRAMEWORK

This report investigates the differences between input and output smoothing methods from an actuarial perspective. As a starting point, it identifies some basic differences (and similarities) between these methods by examining how they perform in specific economic scenarios to make some general observations.⁴

The report compares three alternative statutory schemes: current law, current law modified to increase input smoothing, and current law modified to increase output smoothing. The input smoothing modification extends 24-month smoothing of interest rates and asset values to 60 months and increases the 10 percent limit on the difference between the smoothed and market values of assets to 20 percent. For the output smoothing alternative, current law is modified by extending the amortization period from seven to 10 years and graduating the amortization schedule. These modifications were chosen for illustration purposes only, and should in no way be construed as proposed or recommended changes to the law.

Though current law includes the Pension Funding Stabilization provisions of MAP-21, the assumptions used in the illustrations negate their effects.⁵ Negating the effects of the MAP-21 interest rate corridor benefits the comparisons in this report in two ways. First, it avoids confusion that may result from mixing the effects of the changing corridor with the effects of the alternative smoothing methods. Second, to the extent the effects of the corridor are temporary, the illustrations show how the alternative smoothing methods would ultimately operate.

The smoothing alternatives are compared in four scenarios, covering two plans, each affected by two economic shocks. The two plans are perfectly identical, except that one plan freezes all future accruals more than one year prior to the economic shock, and the other plan continues to accrue benefits and accept new entrants. Both plans are 95 percent funded on a market basis⁶ prior to the shock, which avoids some of the complications that occur for plans with lower funded ratios and highlights the sensitivity of plans with higher funded ratios. Two independent shocks are applied to the experience of each plan—a one-year interest rate decline of 100 basis points and a negative 20 percent return on assets—which are significant enough to illustrate the operation of the smoothing methods and representative of experience in the recent past.⁷

The discussion in this report addresses three key principles of funding regulation from an actuarial perspective. The three principles are the solvency of the plans, the predictability of statutory requirements, and the transparency of financial information about the plans.

EFFECTS ON PLAN SOLVENCY

Observation 1: Input and output smoothing methodologies can affect plan solvency similarly. Either form of smoothing determines a rate at which sponsors must improve the solvency of their plans. So, to the extent that an input method and an output method determine the same rate of improvement, they will have the same effect on plan solvency.

⁴ A more comprehensive comparison of statutory smoothing methods requires a more robust analysis. For example, the effects of a specific proposal may vary by plan design, plan demographic, and future economic scenario.

⁵ The illustrations are drawn from experience after 2016, when the corridor expands to 30 percent, and interest rates are assumed to increase such that they are within the corridor by then.

⁶ Unless otherwise specified, "market basis" refers to the market value of assets and a market-based measurement of liabilities, accomplished by discounting expected future benefit payments on an unsmoothed corporate spot rate curve.

⁷ The illustrations in this report isolate the effects of individual input smoothing mechanisms (interest rate or asset return) for ease of comparison with the output smoothing alternative. Thus, the illustrations do not address the correlation between asset returns and interest rate changes. In reality, there is a correlated interaction between interest rate and asset smoothing methods, which would deserve consideration in the analysis of any specific smoothing proposal.

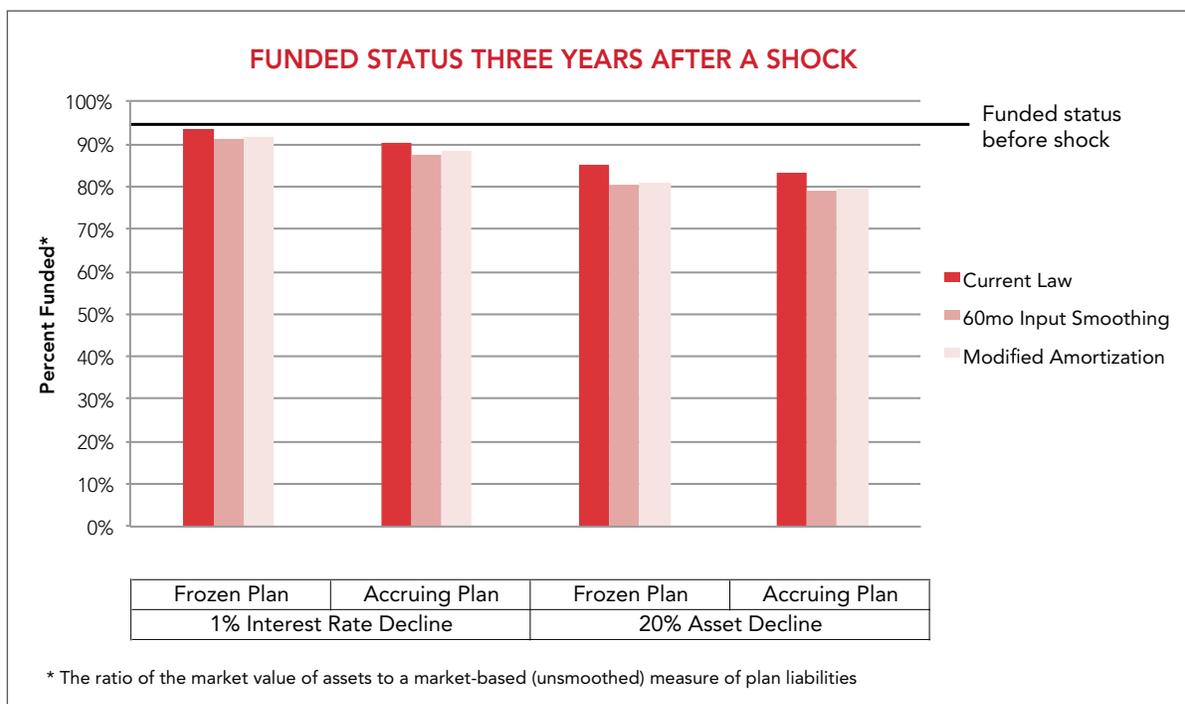


EXHIBIT 1

Exhibit 1 compares plan funding under each statutory alternative three years after encountering severe economic shocks.⁸ The funded status calculations use market-based measures of assets and accrued benefit liabilities. The shocks cause the funded status to fall from 95 percent to 85 or 86 percent in the case of the interest rate shock and to 72 percent in the case of the asset shock. From those lows, the plans recover to the levels shown in the chart three years later.

The exhibit shows that the input and output smoothing alternatives lag current law with respect to improving solvency. Both alternatives increase the period over which losses are recognized and decrease the initial rate of recognition, slowing the pace at which plan sponsors are required to fund their plans.⁹ Because the input and output alternatives recognize losses at approximately the same rate, they have similar funded statuses at the end of three years. These effects apply to any smoothing alternative and are not necessarily a consequence of whether the smoothing is accomplished through input or output methods.

Observation 2: Input methods smooth specific sources of volatility, such as asset returns or interest rate changes, and affect multiple statutory requirements, such as minimum funding requirements and benefit restrictions. In contrast, output methods smooth the effects of multiple sources of volatility for specific statutory requirements.

By definition, input smoothing methods target specific sources of volatility, such as interest rate movements or deviations from expected asset returns. If allowed, the effects of input smoothing will flow into multiple statutory determinations, such as cash contribution requirements or additional disclosure requirements. For example, under

⁸ To see how the funded status compares at other time periods, see Appendix A, which shows how the funded status improves over the entire projection period.

⁹ Also noteworthy: In the case of a gain, both alternatives would accelerate funding relative to current law.

OBSERVATIONS ON INPUT AND OUTPUT SMOOTHING METHODS

current law, a single smoothed asset value enters into the determination of cash contribution requirements and the determination of restrictions on the benefits a plan may offer.

Output smoothing methods effectively capture multiple sources of volatility and manage their effects for a single statutory requirement. The amortization of unfunded benefit liabilities is an example of an output smoothing mechanism. It captures numerous factors contributing to the volatility of unfunded benefit liabilities—interest rates, asset returns and demographic experience, to name a few—and spreads their effects over several years for purposes of determining contribution requirements. However, it has no direct effect on the determination of disclosure requirements or whether benefit restrictions should apply.

The collection of input and output smoothing mechanisms in the funding rules determines which sources of volatility are smoothed and the degree to which they are smoothed. This has implications for incentives built into the funding rules, because smoothing the effects of risk factors may diminish the consequences (good or bad) of taking those risks. It also has implications for the complexity of regulations, as efforts to manage the degree of smoothing for certain risks may lead to multiple rules and increased complexity.

COMMENTARY

Smoothing methods have a major effect on the rate at which sponsors must improve the solvency of their plans. When poor experience causes a shortfall in funding, smoothing of that experience determines how soon it is recognized in contribution requirements. More generally, smoothing methods determine a rate at which plan experience is recognized.

An individual smoothing method—input or output—can determine any rate for recognizing plan experience, as demonstrated in Exhibit 1. However, the funding rules contain multiple smoothing mechanisms that interact, like the combination of asset smoothing and amortization under current law, so the overall rate of recognition depends on the aggregate effect of all mechanisms in the law. Some mechanisms are conditional, so they may only apply to certain plans or under certain circumstances. The illustrations in this report control for many of these circumstances, but a few that apply, such as the limit on smoothed asset values,¹⁰ are the primary sources of differences between the input and output alternatives shown in Exhibit 1. A full analysis of a smoothing method would consider all of the potential interactions and circumstances to determine the proposal's effect on the solvency of the system.

Observation 2 has implications for the complexity of funding rules, as efforts to manage the degree of smoothing for certain types of volatility may lead to multiple rules and increased complexity. Because input methods only smooth a single source of volatility, smoothing the effects of other sources requires additional smoothing methods (input or output). For example, an asset smoothing method stabilizes the asset value used to calculate contribution and benefit restriction requirements. An additional smoothing method would be needed to stabilize the effects that interest rate movements or changes in longevity estimates have on the liabilities used to calculate these requirements.¹¹

Likewise, because output methods only affect a single statutory requirement, stabilizing other statutory requirements necessitates additional smoothing methods. So, for example, an output method that stabilizes

¹⁰ Current law and the output smoothing alternative limit the smoothed asset value to within 10 percent of the market value of assets. The input smoothing alternative limits smoothed assets to be within 20 percent of the market value.

¹¹ Analysis of a specific input smoothing method should consider how the source of volatility may affect both asset and liability values, since increased smoothing of one or the other may not reduce the volatility of statutory requirements. For example, an interest rate smoothing method may reduce the volatility of a plan's liability value but not reduce the volatility of the plan's asset value, which is also affected by interest rate movements. This could result in a greater difference between the asset and liability values than otherwise would have been the case, and the greater difference would translate into more volatile statutory requirements.

OBSERVATIONS ON INPUT AND OUTPUT SMOOTHING METHODS

contribution requirements, such as the amortization of unfunded benefit liabilities, does not stabilize benefit restriction requirements. Additional smoothing methods, whether input or output, are needed to stabilize benefit restrictions.

For either type of smoothing method, input or output, attempts to limit the application of smoothing result in additional complexity, too. With respect to input smoothing methods, the interest rate stabilization provisions of MAP-21 exemplify this issue. The provisions apply to the determination of contribution requirements and benefit restrictions, but they do not apply to the determination of minimum lump sum benefits, maximum deductible contributions, or PBGC variable-rate premiums, for example. The specification of where the interest rate stabilization does or does not apply adds significant complexity to the funding rules. The need for exceptions could complicate output smoothing methods, too. For example, a change to the amortization period for contribution requirements might apply to actuarial gains or losses, but not apply to liability changes resulting from a sponsor-initiated change in plan provisions.

Clearly, no general rule exists for whether an input method or an output method provides the less complex approach to smoothing. The complexity depends on too many specific, and perhaps subjective, factors, such as the complexity of the rule itself and how deeply it is intertwined with existing rules. However, Observation 2 provides a guidepost for direction. Input smoothing methods allow for universal smoothing of the effects of a few, targeted sources of volatility, but may need restrictions on the statutory requirements to which they apply. Alternatively, output smoothing methods allow legislators to set the level of smoothing applicable to a specific statutory requirement, but may need restrictions on which asset or liability changes are smoothed.

EFFECTS ON THE PREDICTABILITY OF STATUTORY REQUIREMENTS

Observation 3: Input and output smoothing methodologies can produce similar effects on the predictability of statutory requirements, such as contribution requirements and benefit restrictions. Either form of smoothing determines when plan experience is reflected in the statutory requirements and, therefore, the amount of time sponsors have to adjust for their effects. So, to the extent that an input method and an output method provide the same amount of time to adjust, they have the same effect on the predictability of a statutory requirement.

The predictability of statutory requirements affects the ability of plan sponsors to manage their business operations efficiently.¹² Two statutory requirements that have a significant effect on business operations are contribution requirements and restrictions on the availability of certain benefits as funded ratios decline (hereafter referred to as “benefit restrictions”).¹³ More predictable contribution requirements allow sponsors to more efficiently allocate their cash resources, potentially affecting the growth and competitiveness of their businesses. And there are similar implications for the predictability of benefit restrictions.

Table 1 shows the effects of severe economic shocks on cash expenditures for the illustrative plan sponsors. It shows the change in contribution requirements (as a percentage of payroll) for the year following the shocks, the most critical year for purposes of predictability since sponsors have the least time to adjust their budgets. A smaller change indicates greater predictability because less of the unexpected funding is required in the first year and the sponsors have more time to plan for the ultimate increase.

¹² A discussion of the predictability of funding requirements must consider that sponsors have the ability to significantly increase predictability through plan design and investment options available to them. However, the predictability of statutory requirements remains important for several reasons. First, sponsors offering defined benefit plans ultimately retain some amount of risk, so statutory provisions will have some influence commensurate with the amount of risk they take. Second, the predictability of statutory requirements may influence sponsor behavior with respect to risk, including the steps they take to manage their risks.

¹³ These provisions were intended to limit the exposure of other stakeholders (e.g., plan participants and the PBGC) to unfunded plan benefits, for which they become liable in the event a sponsor defaults on plan obligations.

OBSERVATIONS ON INPUT AND OUTPUT SMOOTHING METHODS

CONTRIBUTION REQUIREMENT (PERCENT OF PAYROLL)	1% INTEREST RATE DECLINE		20% ASSET DECLINE	
	FROZEN PLAN	ACCRUING PLAN	FROZEN PLAN	ACCRUING PLAN
BEFORE LOSS	0.0%	6.9%	0.0%	6.9%
YEAR FOLLOWING LOSS				
Current Law	0.7%	8.6%	5.6%	13.4%
60mo Input Smoothing	0.1%	7.8%	3.2%	10.7%
Modified Amortization	0.3%	7.9%	2.8%	10.2%
CHANGE				
Current Law	0.7%	1.7%	5.6%	6.5%
60mo Input Smoothing	0.1%	0.9%	3.2%	3.8%
Modified Amortization	0.3%	1.0%	2.8%	3.3%

TABLE 1¹⁴

The input and output smoothing alternatives significantly reduce the change in contribution requirements relative to current law but show little difference in relation to each other. As explained in the section on solvency, both alternatives decreased recognition of the shocks in the first year for purposes of determining contribution requirements. And, because they decreased recognition by approximately the same amount, they have about the same effect on the predictability of contribution requirements. The alternatives show that either form of smoothing can be adjusted to a desired amount of predictability.

Table 2 shows how the economic shocks affect the smoothed funded ratios for the sample plans, which determine the application of benefit restrictions,¹⁵ in the year following the shocks. Some benefit restrictions begin to apply when the ratio falls below 80 percent. The plans illustrated in this report are 95 percent funded prior to experiencing a shock, and so seem secure from restrictions. However, the asset return shock is great enough to drive the smoothed ratio to just below 80 percent under current law and the output smoothing alternative, but it does not do so under the input smoothing alternative.

SMOOTHED FUNDED RATIO	1% INTEREST RATE DECLINE		20% ASSET DECLINE	
	FROZEN PLAN	ACCRUING PLAN	FROZEN PLAN	ACCRUING PLAN
BEFORE LOSS	95.0%	95.0%	95.0%	95.0%
YEAR FOLLOWING LOSS				
Current Law	94.7%	93.4%	79.7%	79.4%
60mo Input Smoothing	96.2%	94.9%	86.9%	86.7%
Modified Amortization	94.7%	93.4%	79.7%	79.4%

TABLE 2

The illustration implies that input smoothing improves the predictability of benefit restrictions and output smoothing does not. However, this occurs because the output smoothing alternative used in the illustration only applies to contribution requirements, not because output smoothing methods cannot improve the predictability of benefit restrictions. Observation 2 noted that output smoothing alternatives affect specific statutory requirements, and an additional output smoothing method is needed to affect benefit restrictions. So, for example, adding provisions

¹⁴ The contribution requirements shown in Table 1 exclude amortization of gains and losses that occurred prior to the economic shocks.

¹⁵ In this case, the smoothed funded ratios represent the Adjusted Funding Target Attainment Percentages (AFTAPs) for the illustrative plans. The characteristics of the sample plans are such that the AFTAPs equal the Funding Target Attainment Percentages (FTAPs) for the plans.

OBSERVATIONS ON INPUT AND OUTPUT SMOOTHING METHODS

that delay restrictions until there have been two consecutive years of funded ratios less than 80 percent would be a way to address the predictability of benefit restrictions through an output smoothing approach.

EFFECTS ON THE TRANSPARENCY OF FINANCIAL INFORMATION

Observation 4: Input smoothing methodologies change the relationship between market-based and reported values of pension assets and liabilities. Users of the reported values need to understand their relationship to market-based values to ensure appropriate use of the information.

Input smoothing methods change the relationship between smoothed funded ratios and market-based measurements of funded ratios.¹⁶ To show this, Table 3 compares the difference between the smoothed and market-based funded ratios in the year following the illustrative shocks, when the differences are greatest. So, for example, in the year following the interest rate shock, the accruing plan has a market-based funded ratio of 85 percent and a smoothed funded ratio of 93 percent under current law—a difference of 8 percentage points. For the output smoothing alternative, the smoothed ratio differs from the market-based ratio by exactly the same amount as it differs under current law. But for the input smoothing alternative, the smoothed ratio differs from the market-based ratio by a greater amount in all cases. So, changing the amount of input smoothing changed the relationship between the smoothed and market-based ratios.

DIFFERENCE BETWEEN SMOOTHED AND MARKET- BASED FUNDED RATIOS	1% INTEREST RATE DECLINE		20% ASSET DECLINE	
	FROZEN PLAN	ACCRUING PLAN	FROZEN PLAN	ACCRUING PLAN
BEFORE LOSS	0%	0%	0%	0%
YEAR FOLLOWING LOSS				
Current Law	9%	8%	8%	7%
60mo Input Smoothing	10%	10%	15%	15%
Modified Amortization	9%	8%	8%	7%

TABLE 3

This is a direct result of input smoothing methodologies. Input smoothing methodologies alter market inputs to the calculation of asset and liability values, thereby changing how calculated asset and liability values relate to the markets. As the amount of input smoothing increases, the relationship gets weaker. So, under the input smoothing alternative, the smoothed ratios deviate from the market-based ratios by greater amounts because they are less sensitive to changes in market conditions.

In contrast, output methodologies do not affect the calculation of asset and liability values, leaving their relationship to the markets unchanged. Current law differences between the smoothed and market-based ratios shown in Table 3 are attributable to the input smoothing already allowed under current law. The output smoothing alternative has the same differences as current law because the calculation of asset and liability values remains the same as under current law.

The relationship between financial markets and estimates of asset and liability values has implications for the users of plan information. Users who prefer a market-based measure of plan information would prefer less input smoothing in the reported values they use.

¹⁶ For this illustration, market-based ratios equal the market value of plan assets divided by plan liabilities calculated using an unsmoothed corporate spot rate curve

OBSERVATIONS ON INPUT AND OUTPUT SMOOTHING METHODS

Observation 5: The funding rules use plan information, and therefore need to be considered when the nature of plan information changes.

For example, the rules for applying benefit restrictions rely on a smoothed funded ratio to determine whether and to what degree restrictions should apply. The use of plan information for purposes of statutory requirements such as this is written into law, and is likely based on a relationship between smoothed and market-based measures. A change in that relationship warrants consideration of whether such requirements function as intended under the new relationship.

Table 4 provides an illustration of this consideration. It shows the relationship between statutory and market-based measures for activation of benefit restrictions by summing the number of years during the projection period when those ratios would fall below 80 percent. Under current law and the output smoothing alternative, benefit restrictions would apply during one less year than they would if a market-based measure of funded status determined their application. This reflects the amount of input smoothing under current law. Under the input smoothing alternative, benefit restrictions would never apply during the projection period. So, to the extent legislators intend to apply benefit restrictions based on a current, market-based measure of plan funding, increasing the amount of input smoothing would counter this intention.

NUMBER OF YEARS THE FUNDED RATIO IS BELOW 80%	FROZEN PLAN		ACCRUING PLAN	
	STATUTORY	MARKET-BASED	STATUTORY	MARKET-BASED
Current Law	1	2	2	3
60mo Input Smoothing	0	3	0	4
Modified Amortization	1	3	3	4

TABLE 4

COMMENTARY

The principle of transparency allows stakeholders in the system to make decisions based on the financial status of the plans, such as how to value benefit promises, whether to provide capital to a sponsoring organization, and whether additional regulatory scrutiny is warranted. Essentially, it enables different stakeholders to manage their risks with respect to the plans.

The long-term risks associated with defined benefit plans complicate determination of financial information about a plan and, therefore, the question of how to communicate plan information. The financial markets provide a strong indication of the current price for defined benefit obligations and the assets backing them, but financial markets can be volatile and the prices for obligations and assets may change substantially in a short period of time. So, while some users prefer plan information consistent with current markets, other users may desire information consistent with another basis.¹⁷ Their purpose notwithstanding, stakeholders need to understand the relationship between reported data and the financial markets because the markets ultimately determine the cost of settling a plan's obligations.

Input smoothing methods affect the transparency of plan financial information, as they change how the information relates to financial markets. To the extent that users desire market-based information, they need to understand

¹⁷ Stakeholders may have access to preferable data on a plan's financial status from sources other than statutory disclosures. For example, to the extent plan sponsors disclose plan financial information under pension accounting standards, stakeholders with access to the accounting disclosure may find its data preferable to the data disclosed under statutory standards.

how input smoothing has affected the information they receive. Where the funding rules use plan information, legislators must consider whether smoothed values provide appropriate information for their laws to function.

SUMMARY AND AREAS FOR FUTURE ANALYSIS

The illustrations in this report show that, at a basic level, the choice between input and output forms of smoothing does not directly affect the solvency of plans or the predictability of statutory requirements. Rather, the rate at which any smoothing method requires plan sponsors to take plan experience into account determines how the method affects these principles. Legislators can adjust the rate under either form of smoothing, input or output.

In contrast, the choice between input and output smoothing methods has real implications for the transparency of a plan's financial information. Because output methods do not alter the calculation of assets or liabilities, they do not affect the relationship between these key data elements and the markets that ultimately determine their value. However, input methods do alter the calculation of assets and liabilities, so changes to input smoothing must consider whether the altered values provide an appropriate measure for their intended use.

The discussion in this report hinges on a narrow set of circumstances in the private single-employer defined benefit system that highlights these general observations. But it also provides ideas for further consideration and analysis in choosing any smoothing method, including decisions about input or output methods.

Discussion of this limited set of circumstances indicates the need for a robust analysis of specific smoothing proposals. Numerous factors—such as the diversity in plan demographics and designs, the interaction of multiple smoothing mechanisms, and the number of potential scenarios for future experience—may influence how a specific proposal affects a given plan or the system as a whole.

The discussion of the principles of predictability and transparency provides some insight to how the degree of smoothing in funding rules may influence sponsor behaviors. To the extent volatility discourages a plan sponsor from taking a risk, smoothing the effects of that risk reduces the impediment. At the highest level, the overall amount of smoothing may influence sponsor decisions about whether to offer a defined benefit plan, which always entails some degree of financial risk. And the degree of smoothing for individual sources of volatility may also influence behaviors. For example, asset returns generally receive an added degree of smoothing through an input smoothing method, which may encourage sponsors to take more investment risk than if the additional smoothing were not available.

Finally, discussion of the rules for benefit restrictions may suggest a need for further analysis of thresholds in the funding rules. Thresholds change the rules once they are crossed, like when benefit restrictions begin (or cease) to apply after the funded ratio crosses 80 percent. The change in rules can cause volatility or disruption, such as significant changes in contribution requirements or sudden elimination of benefit options that were previously available to participants. To the extent this type of volatility is not desired, an analysis of thresholds in the funding rules may help identify solutions for avoiding it.

APPENDIX A: PROJECTED FUNDED STATUSES FOR ILLUSTRATIVE SCENARIOS

Exhibit 1 in the section titled “Effects on Plan Solvency” compares the funded status of the illustrative plans three years after they encounter severe economic shocks. The comparison varies over time, as the statutory alternatives do not recognize experience at exactly the same rate, and contribution requirements differ under each alternative.

Exhibits 2 through 5 show how the funded status under each statutory alternative compares across time. In each case, the funded status improves more rapidly under current law than it does under the input and output smoothing alternatives. While the input and output alternatives were calibrated to improve solvency at approximately the same rate in the short term, slight differences develop in later years, which are attributable to several factors, including differences in the rate of experience recognition built into each statutory alternative, differences between frozen and accruing plans, and differences in how assumed experience affects the frozen and accruing plans.

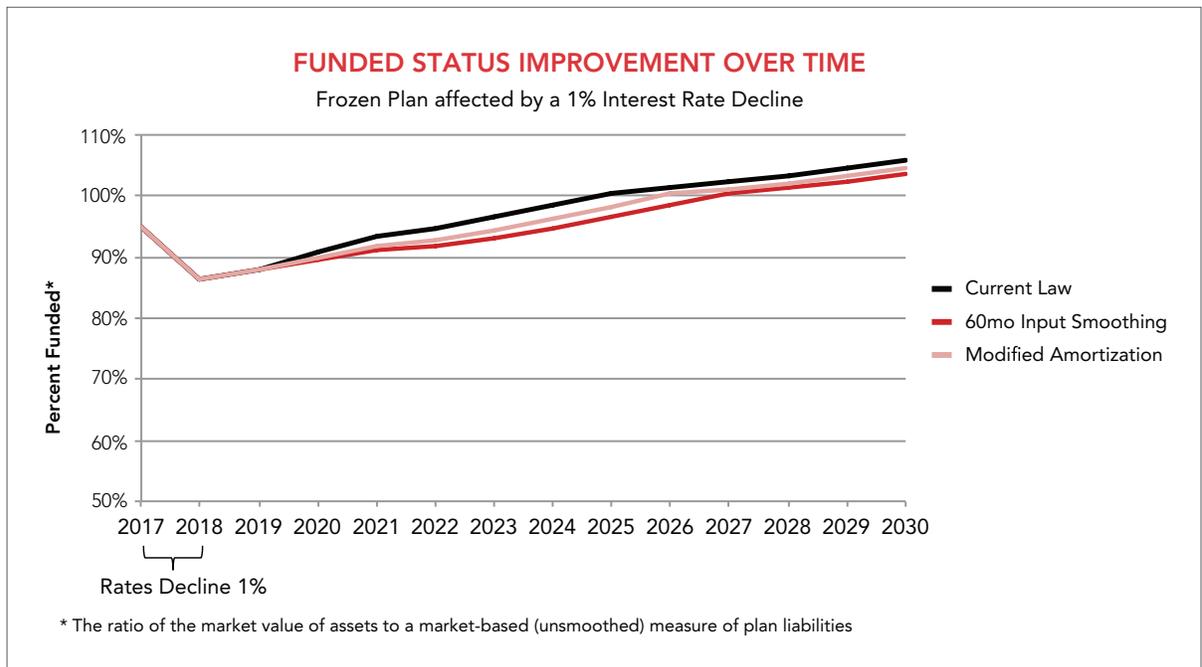


EXHIBIT 2

Appendix A

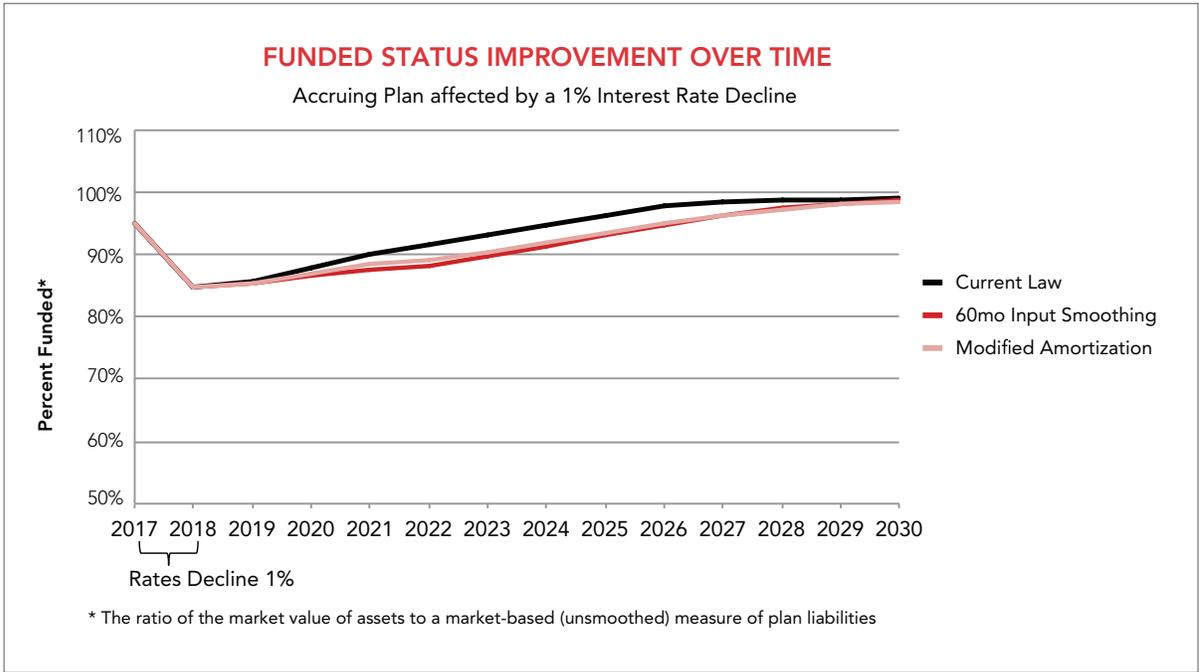


EXHIBIT 3

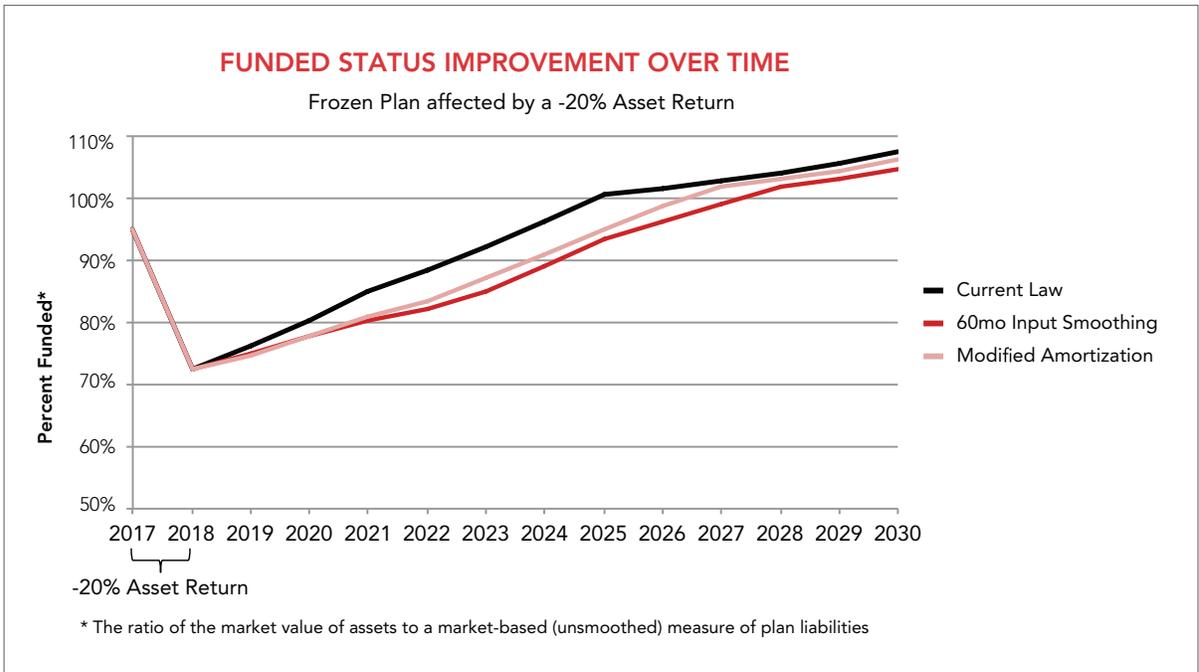


EXHIBIT 4

Appendix A

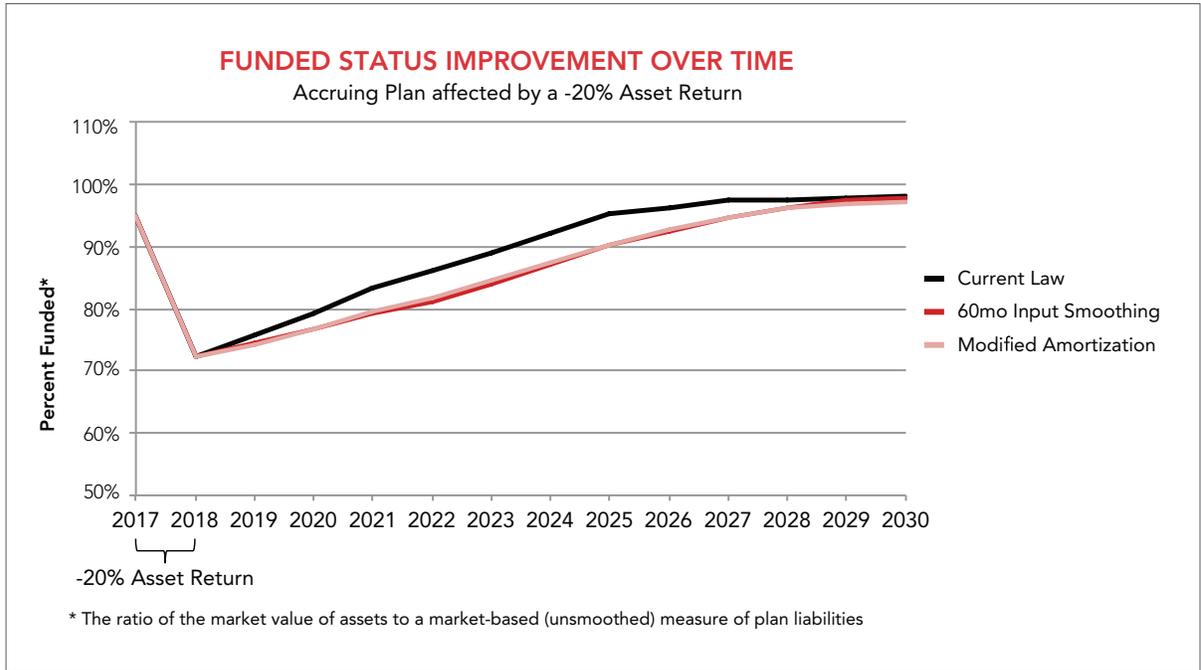


EXHIBIT 5

APPENDIX B: METHODS AND ASSUMPTIONS

This report used several deterministic projections of plan experience for two hypothetical plans in the U.S. single-employer defined benefit system, with the intent of comparing smoothing methodologies. The projections were developed using the Pension Insurance Modeling System (PIMS), originally developed for the PBGC, and modified for purposes of this study.

With a few exceptions, the illustrations assumed plan experience matched valuation assumptions. Exceptions included:

	VALUATION	EXPERIENCE
DEMOGRAPHIC		
MORTALITY RATES (PRE- AND POST-RETIREMENT)	RP2000 projected 10 years beyond the valuation date, assuming 60/40 male/female population	RP2000 projected to the valuation date, assuming 60/40 male/female population
ECONOMIC		
WAGE INCREASES	Based on age and service. For the starting active population, a 4.81% pay-weighted average.	4.00%

Each scenario deviated from the baseline assumptions to generate the economic shocks illustrated in this report. The baseline effective interest rate (EIR) was 6 percent, and the baseline asset return equaled the third segment rate (without 24- or 60-month averaging) for the month preceding the valuation date. For scenarios illustrating the effects of a 100 basis point decline in interest rates, the EIR was assumed to decline linearly from 6 percent at January 1, 2017 to 5 percent at January 1, 2018, and remain a constant 5 percent thereafter. Inflation and experienced wage increases were assumed to decline by 100 basis points in parallel with interest rate declines. For scenarios illustrating the effects of a negative 20 percent return on plan assets, the assumed asset return for 2017 was negative 20 percent.

Both hypothetical plans provided identical final average pay accruals through 2015. The frozen plan was assumed to close to new entrants as of January 1, 2015 and cease accruals as of January 1, 2016, such that active participant benefits did not increase for pay or service. However, the employee populations for both hypothetical plan sponsors were assumed to develop consistently with each other, so that projected payroll remained identical after 2015.

Where the report referenced results under current law, funding requirements were modeled on the provisions in the Pension Protection Act of 2006 (PPA), as amended through the Moving Ahead for Progress in the 21st Century (MAP-21) legislation. Both hypothetical plans utilized the maximum permissible interest rate and asset smoothing periods.

Where the report referenced the "input smoothing alternative" or "60mo input smoothing," the maximum smoothing period for interest rates and asset values increased from 24 months to 60 months, and the 10 percent limit on the difference between the smoothed and market values of assets increased to 20 percent, effective with the 2018 valuation. Pre-2017 asset and interest rate experience continued to be recognized on the 24-month schedule, and post-2016 experience was recognized on the 60-month schedule.

Where the report referenced the "output smoothing alternative" or "modified amortization," the amortization period increased from seven to 10 years, and the schedule was graduated, effective with the 2018 valuation.

OBSERVATIONS ON INPUT AND OUTPUT SMOOTHING METHODS

Appendix B

The graduated amortization schedule funded interest on the outstanding balance plus a portion of the original principal each year. The portion of the original principal funded each year was:

YEAR	1	2	3	4	5	6	7	8	9	10
PRINCIPAL FUNDED	2.9%	5.9%	8.8%	11.8%	14.7%	14.7%	14.7%	11.8%	8.8%	5.9%

The percentages in this schedule were selected to approximate the rate of interest rate and asset return experience recognition in the input smoothing alternative. Funding shortfalls for valuations prior to 2018 continued to amortize on their original schedules.

Modifications to current law were chosen for illustration purposes only, and should in no way be construed as proposed changes to the law.

SOCIETY OF ACTUARIES

475 N. Martingale Road, Suite 600
Schaumburg, Illinois 60173
www.soa.org

Disclaimer

This report is not intended to advocate a position for or against the use of smoothing methodologies, or for or against the use of any particular smoothing methodology. Rather, the purpose of this research is simply to provide objective, actuarial illustrations of the differences between alternative methodologies. While we hope that this report will help inform policymakers on some implications of the illustrated methodologies, we recognize there are many other issues they must also consider, which are not illustrated in this report. Consequently, the Society of Actuaries does not take any position on the merits of using the methodologies illustrated in this report.

DRAFT

ALASKA RETIREMENT MANAGEMENT BOARD

ACTUARIAL REVIEW OF PENSION AND POSTEMPLOYMENT
HEALTHCARE PLANS FOR PERS AND TRS

APRIL 8, 2013

April 8, 2013

Mr. Gary Bader
Chief Investment Officer
Department of Revenue, Treasury Division
Alaska Retirement Management Board
P.O. Box 110405
Juneau, AK 99811-0405

Subject: Actuarial Review of June 30, 2012 valuations for the State of Alaska Public Employees' Retirement System (PERS) and Teachers' Retirement System (TRS).

Dear Gary:

We have performed an actuarial review of the June 30, 2012 Actuarial Valuations for PERS and TRS.

This report includes a review of:

- Pension Assumptions and Benefits
- Health Care Cost Assumptions
- Actuarial Valuation Methods and Procedures
- Contribution Rate Determination
- Actuarial Valuation Report
- Potential Areas for Future Review

A major part of the review is a thorough analysis of the test lives provided by Buck Consultants. The report includes exhibits which summarize the detailed analysis of these sample test cases for PERS and TRS, as well as a comparison of the results between Buck Consultants and GRS. We wish to thank the staff of the State of Alaska Treasury Division and Buck Consultants without whose willing cooperation this review could not have been completed.

Sincerely,

Gabriel, Roeder, Smith & Company



Leslie L. Thompson, FSA, FCA, EA, MAAA
Senior Consultant



Dana L. Woolfrey, FSA, FCA, EA, MAAA
Consultant



Todd D. Kanaster, ASA, MAAA
Senior Analyst

cc: Ms. Judy Hall

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SECTION 1

EXECUTIVE SUMMARY

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EXECUTIVE SUMMARY

Gabriel, Roeder, Smith & Co. was engaged by the Alaska Retirement Management Board (ARMB) to review the June 30, 2012 Actuarial Valuation of the State of Alaska Public Employees' Retirement System (PERS) and Teachers' Retirement System (TRS).

This report presents our findings in the following areas:

- General Approach
- Pension Assumptions and Benefits
- Health Care Cost Assumptions
- Actuarial Valuation Methods and Procedures
- Contribution Rate Determination
- Actuarial Valuation Report
- Potential Areas for Future Review
- Summary and Conclusions

In general, we found that the Buck's actuarial results and reports were reasonable. We found no areas of concern in the actuarial valuation results, and find the assumptions consistent with generally accepted actuarial practice.

KEY FINDINGS FROM THE AUDIT OF THE JUNE 30, 2012 VALUATIONS

Through the test life review completed with the June 30, 2012 audit we did find a few issues to be resolved, two issues which are outstanding from last year and one which is newly highlighted. Our test life work, in general, matches that of Buck Consultants. Using Buck's methods and assumptions, we are able to match liabilities within an acceptable degree of tolerance. However, we are recommending a review and change in methodology for the subsequent valuations.

As a part of the annual audit, we take a historical look at the gains and losses on the accrued liability. Gains and losses may measure "how closely" experience matches the actuarial assumption. Recurring gains or losses may indicate an assumption that is not meeting the actual experience for this population.

PERS Historical Gains and (Losses) by Source

<u>Source</u>	<u>2012</u> <u>Valuation</u>	<u>2011</u> <u>Valuation</u>	<u>2010</u> <u>Valuation</u>	<u>2009</u> <u>Valuation</u>	<u>2008</u> <u>Valuation</u>
Retirement	\$(2,103)	\$(8,116)	\$3,730	\$(6,440)	\$(2,325)
Termination	(19,932)	(39,980)	(33,532)	(20,118)	(7,241)
Mortality	8,809	(2,020)	(17,350)	(23,756)	(6,842)
Disability	224	177	(1,837)	(60)	(1,217)
New Hires and Re-entrants	(24,172)	(25,953)			
Other	10,356	(42,015)	(28,765)	(22,113)	(30,528)
Salary	(25,024)	(13,845)	4,617	(20,132)	(60,440)
COLA and PRPA	8,995	39,219	86,479	(19,481)	41,400
Total	\$(42,847)	\$(92,533)	\$13,342	\$(112,100)	\$(67,193)

TRS Historical Gains and (Losses) by Source

<u>Source</u>	<u>2012</u> <u>Valuation</u>	<u>2011</u> <u>Valuation</u>	<u>2010</u> <u>Valuation</u>	<u>2009</u> <u>Valuation</u>	<u>2008</u> <u>Valuation</u>
Retirement	\$6,990	\$3,809	\$7,922	\$8,298	\$3,618
Termination	(11,029)	(14,197)	(9,763)	(10,182)	(2,108)
Mortality	4,375	(5,625)	(17,413)	(17,693)	(15,681)
Disability	(850)	(974)	(556)	(428)	(320)
New Hires and Re-entrants	(8,174)	(14,236)			
Other	(12,877)	8,225	(20,959)	(16,262)	(16,536)
Salary	9,947	8,514	(35,479)	(12,153)	(11,870)
COLA and PRPA	632	26,347	58,823	(16,355)	20,193
Total	(\$10,986)	\$11,863	(\$17,425)	(\$64,775)	(\$22,704)

There continue to be termination losses. Termination losses occur when members do not terminate as much as expected. Based on the experience study, overall termination rates were increased which would generally increase termination losses; however Buck indicated that ultimate termination rates (where liabilities and potential gains and losses are highest) were decreased which should have reduced termination losses. As Buck indicated, it may be that the continued termination losses may simply be due to short-term economic pressures.

TEST LIFE OBSERVATIONS

We have noted the most significant areas of concern below, and a more detailed interpretation of the correspondence of resolution and/or explanation between Buck and GRS is noted in Section 4. In addition, we continue to monitor the findings and recommendations from the June 30, 2011 audit performed against the test lives and reports submitted by Buck for the June 30, 2012 audit. There were issues raised in the audit of the June 30, 2011 valuations that are not yet resolved. At the end of this Section we have included a checklist of our review of outstanding items and Buck's status and/or explanation for each item.

- ***Retirement benefits – due to averaging benefits determined at beginning and end of year, rather than determining the benefits at middle of year, early retirement factors are being applied in some instances where the member is eligible for an unreduced benefit. This has the impact of valuing too low of a benefit for some members.***
- ***PRPA Timing – in cases where the eligibility for a PRPA adjustment is age-based, Buck is delaying the increase as much as one year. This reduces the liability and contribution rate.***
- ***Healthcare participation and eligibility for employer paid coverage prior to age 60 – in cases where a member becomes eligible for employer-paid premiums prior to age 60 by meeting the service requirement, participation and retiree paid premiums are not calculated correctly in the first year of eligibility for the employer-paid premiums.***

SUMMARY OF TEST LIFE REVIEW

We have included as a part of this report a detailed test life results summary.

- We matched the present value of benefits closely in total on all testlives submitted. We have included exhibits in Section 4 of the report which summarize the differences in calculations by decrement for the test lives analyzed. Differences between actuarial firms will always occur due to system differences and other nuances in the calculations.
- The actuarial basis (the assumptions and methods) used for the funding of the plan lies within the range of reasonableness, with the exception that we recommend changes as noted above.

New or outstanding issues which are considered to have potential non-trivial impact:				
Issue	GRS Recommendations	Plan	Buck Updated?	Buck Comments
1. Post Retirement Pension Adjustment	Age-based timing of increase is delayed as much as one year. This understates liabilities.	TRS, PERS	✘	Buck indicates they believe this is an age rounding issue and will correct with the June 30, 2013 valuation.
2. Early retirement reduction	Due averaging of beginning of year and end of year statistics, applying early retirement reduction where none is needed in first year of eligibility based on 20 years of service. This understates liabilities.	TRS, PERS	✘	The Buck valuation system does not allow for this. Does not believe their methodology introduces any bias.
3. Post-retirement Health Election Percentage	Averaging beginning of year and end of year participation assumption. Should use participation assumption based on middle of year eligibility. Biggest issue for retiree contributions. This understates liabilities.	TRS, PERS	✘	The Buck valuation system does not allow for this. Believe de minimus.
Outstanding issues which are considered to have de minimus impact.				
Issue	GRS Recommendations	Plan	Buck Updated?	Buck Comments
4. Postretirement benefit adjustments for survivors	Eligibility for post-retirement benefit adjustments is based on the retiree age rather than the surviving spouse age.	TRS, PERS	✘	System limitations prevent this change.
5. Occupational disability rates during retirement eligibility	Assumption ceases at early retirement although disability benefit may be more valuable.	PERS	✘	Buck indicates this assumption is included in the experience study report.

SECTION 2
GENERAL APPROACH

GENERAL APPROACH

Gabriel, Roeder, Smith & Co. was charged with reviewing the actuarial assumptions of the pension and health care provisions of the actuarial valuations of TRS and PERS.

We requested a number of items from Buck Consultants in order to perform the actuarial review and health cost assumption review:

1. We received the draft reports on February 25, 2013. On December 6, 2012, we received valuation data for pension and healthcare for both plans. On December 13, 2012, we received the pension and healthcare test lives for PERS and TRS.

In performing our review, we:

1. Reviewed actuarial assumptions – we checked to see if they were consistent, comprehensive, and appeared reasonable.
2. Reviewed the actuarial valuation reports as of June 30, 2012 for completeness, GASB compliance and a review of financial determinations.
3. Reviewed, in detail, the sample members provided us – This provided us with a perspective on the actuarial process utilized by Buck with respect to the plan and allowed us to review the valuation methods and procedures.
4. Reviewed the health cost assumptions and trend.
5. Identified areas for future more detailed review.

KEY ACTUARIAL CONCEPTS

An actuarial valuation is a detailed statistical simulation of the future operation of a retirement system using the set of actuarial assumptions adopted by the Board. It is designed to simulate all of the dynamics of such a system for each current system member including:

1. Earning future service and making contributions,
2. Receiving changes in compensation,
3. Leaving the system through job change, disablement, death, or retirement, and
4. Determination of and payment of benefits from the System.

This simulated dynamic is applied to each active member of the System. It results in a set of expected future benefit payments to that member. Bringing those expected payments to present value, at the assumed rate of investment return, produces the Actuarial Present Value (“APV”) of future benefits for that member. In like manner, an APV of future salaries is determined.

The APV of future benefits and the APV of future salaries for the entire System are the total of these values across all members. The remainder of the actuarial valuation process depends upon these building blocks.

Once the basic results are derived, an actuarial method is applied in order to develop information on contribution levels and funding status. An actuarial method splits the APV of future benefits into two components:

1. APV of Future Normal Costs, and
2. Actuarial Accrued Liability (“AAL”).

The actuarial method in use by the State of Alaska is known as the Entry Age Normal (EAN) method. Under EAN, the Normal Cost for a member is that portion of the Actuarial Present Value of the increase in the value of that member’s benefit for service during the upcoming year. The AAL is the difference between the total APV and the present value of all future normal costs.

For TRS and PERS, the APV of future benefits applies to the following benefits:

- Retirement benefits
- Withdrawal benefits
- Disability benefits
- Death benefits
- Return of contributions
- Medical benefits
- Indebtedness (from contributions which might be redeposited)

The medical benefits are based on potential future health care benefits, while the others are a type of post-employment income replacement benefit, based on salary. For the medical benefits, estimates must be made of the future health care costs. This is done by determining current per capita health care claim costs by age of retiree, and projecting them into the future based on anticipated future health care inflation.

SECTION 3
REVIEW OF ASSUMPTIONS

DRAFT

REVIEW OF PENSION ASSUMPTIONS

ECONOMIC ASSUMPTIONS

General

These assumptions simulate the impact of economic forces on the amounts and values of future benefits. Key economic assumptions are the assumed rate of investment return and assumed rates of future salary increase.

Economic assumptions are normally defined by an underlying inflation assumption. Buck has cited 3.12% as its inflation assumption. In recent years, long-term inflation forecasts have been declining. With the decline, the 3.12% inflation assumption is now at the higher end of the generally accepted range.

Investment Return Assumption

The nominal investment return assumption is 8.00%. The assumption is net of all investment and administrative expenses. A net investment return rate of 8.00% per annum is a commonly used assumption by many large public employee retirement systems. Combined with the 3.12% inflation assumption, this yields a 4.88% real net rate of return. This 4.88% real return should be continuously tested with the PERS and the TRS asset allocation.

Because PERS and TRS are closed to new members, eventually the asset allocation may need to be adjusted to reflect cash flow needs. This should also be considered in the next asset allocation and experience study.

Member Pay Increase Assumption

In sophisticated actuarial models, assumed rates of pay increase are often constructed as the total of several components:

Base salary increases -- base pay increases that include price inflation and general “standard of living” or productivity increases.

An allowance for Merit, Promotion, and Longevity – This portion of the assumption is not related to inflation.

In the context of a typical pay grid, pay levels are set out for various employment grades with step increases for longevity:

The base salary increase assumption reflects overall growth in the entire grid, and the Merit, Promotion, and Longevity pay increase assumption reflects movement of members through the grid, both step increases and promotional increases.

Base Salary Increase Assumption

The Base Salary Increase Assumption (also known as the wage inflation assumption) is 3.62%. The 3.62% is comprised of 3.12% for general inflation and 0.5% for productivity increases.

Merit, Promotion, and Longevity Pay Increase Assumption

As described above, the Merit, Promotion, and Longevity pay increase assumption represents pay increases due to movement through the pay grid. This is based on longevity and job performance. In most models, it is recognized that step increases and promotions are very rare late in careers. Thus, this allowance should trail away from relatively high levels for young or short service members to virtually nothing late in careers. We would expect that, as members approach retirement, this component would fade away.

The assumptions used by Buck are reasonable.

We would also offer that the manner in which pays change over time for teachers in comparison to public employees tends to differ. Since most teachers have a specific skill set, the approach to their compensation tends to follow a more consistent trend. Public Employees however (except for Peace officers and Firefighters) tend to represent a multitude of different skills – from a more generalized, labor intensive capacity (e.g., custodial) to more specialized training (ex. Accounting).

DEMOGRAPHIC ASSUMPTIONS

There have been no changes to the demographic assumptions since the prior valuation. These are generally changed in conjunction with an experience study every three to five years. The magnitude of the demographic gains and losses do not indicate that any acceleration of this process is warranted.

SUMMARY

The set of actuarial assumptions appear to be reasonable.

REVIEW OF HEALTH CARE COST ASSUMPTIONS

GENERAL

Buck was able to complete their analysis of medical costs based on claims information provided by HealthSmart and Premera. For the 2012 valuation, the claim costs and Medicare offset analyses were updated using claims and enrollment data. Individual claim level detail was obtained from HealthSmart and Premera for fiscal years 2009 through 2012.

Claims Cost and Medicare Offset

We analyzed the trend in the per capita claim costs over the last five years:

	Age 65 Per Capitas for Fiscal Year Ending					
	2008	2009	2010	2011	2012	2013
Medical: Pre-Medicare	7,196	7,670	7,503	8,606	9,497	9,856
Medical: Medicare A&B only	1,151	1,296	1,336	1,563	1,551	1,628
Medical: Medicare B only	2,805	3,384	4,754	6,654	6,936	6,219
Rx	2,173	2,379	2,419	2,600	2,799	2,736

	Trend					
	08-09	09-10	10-11	11-12	12-13	Avg.
Medical: Pre-Medicare	6.6%	-2.2%	14.7%	10.4%	3.8%	6.5%
Medical: Medicare A&B only	12.6%	3.1%	17.0%	-0.8%	5.0%	7.2%
Medical: Medicare B only	20.6%	40.5%	40.0%	4.2%	-10.3%	17.3%
Rx	9.5%	1.7%	7.5%	7.7%	-2.3%	4.7%

	Trend		
	12-13 Actual	12-13 Assumed	Gain/Loss
Medical: Pre-Medicare	3.8%	6.4%	Gain
Medical: Medicare A&B only	5.0%	6.4%	Gain
Medical: Medicare B only	-10.3%	6.4%	Gain
Rx	-2.3%	7.1%	Gain

The changes in rates used in the June 30, 2011 valuation (fiscal year ending 2012) and the June 30, 2012 valuation (fiscal year ending 2013) for medical and prescription claims were less than the current trend assumption being used. This resulted in gains on Postemployment Healthcare Liabilities.

Method and Contributions

- Nothing to recommend

Assumptions

- The trend assumptions used for Medical and Prescription Drugs still appear to be reasonable in that they are conservative when compared to the 5-year average. Since the previous valuation, medical trend rates were separated into pre- and post-65, with higher pre-65 rates. This change appears to be an improvement.
- The participation assumption of 100% for employer-paid coverage and 10% for member-paid coverage still appears reasonable.

Cadillac Tax

- For medical plans deemed “rich” under PPACA, an additional tax is to be levied on those benefits. This tax is commonly referred to as the “Cadillac tax”. Buck indicates that the Cadillac Tax will affect the plan sufficiently far in the future to produce a minimal impact to valuation results. The following table shows the PPACA limits for 2018. Based on the Weighted Average 7/1/2012-6/30/2013 Incurred Claims Cost Rates of \$7,839 (shown on page 96 of PERS report and 77 of TRS report) and the trend assumptions for 2013 – 2018, it is likely that the Alaska retiree plan will have an average value of around \$11,000 per year per member in 2018. With trend rates affecting the Alaska retiree plan which are higher than those used to index the 2018 PPACA Limits (shown below), it seems likely that the plan will start to hit the threshold within the next ten years, and a Cadillac tax may be assessed.

2018 PPACA Limit	Single	Two Person	Family
Retirees 55 to 64	\$11,850	\$30,950	\$30,950
Retiree 65+	\$10,200	\$27,500	\$27,500

We conclude that it may be necessary to provide further documentation on the projections of the potential for a Cadillac tax. For most plans, the issue is not whether there is a Cadillac tax, but rather when there will be a Cadillac tax.

SECTION 4

**REVIEW OF ACTUARIAL VALUATION METHODS
AND PROCEDURES**

INCLUDES SAMPLE LIFE REVIEW

REVIEW OF ACTUARIAL VALUATION METHODS AND PROCEDURES

I. Background

An actuarial valuation is a detailed statistical simulation of the future operation of a retirement system using the set of actuarial assumptions adopted by the Board.

The actuarial values generated from this process are based not only on these assumptions, but also on the additional assumptions built into each actuarial firm's pension valuation software.

Our scope for performing the review did not include a complete replication of the valuation results as determined by Buck Consultants at June 30, 2012. Rather, we reviewed a number of sample test lives from Buck in great detail, and made our determinations as to whether the methods and assumptions being employed were being done so properly. We also reviewed the report in order to examine the aggregate results and conclusions of this actuarial valuation.

Though this approach is not intended to meet the rigors of a full scale replication of results – it still serves as a strong indicator of the appropriateness of the assumptions and methods being used to value the liabilities and determine the costs for these plans.

II. Process:

Our review process can be summarized as follows:

Computation: Valuation Liabilities

We analyzed test cases to compare the Actuarial Liability under the EAN funding method for the test cases of the PERS and TRS Systems. As a starting point, we wanted to first replicate Buck's test case liabilities by using their assumptions and methods to ensure that the computations were in sync with the descriptions listed in the valuation report.

When conducting an actuarial audit, and reviewing the testlives, we look at the projected benefits at each age for each decrement type. We also look at the component of the benefit (final average earnings and years of service). This is critical to understanding what the valuation system is actually valuing and making sure that they valuation is not "right for the wrong reasons", (meaning, errors could occur in two different directions making total liabilities approximate a correct value.)

We also review the construction of the commutation functions- the varying probabilities for each decrement and the discounting to the valuation date.

III. Actuarial Method:

Findings:

The actuarial method used for producing Alaska PERS and TRS June 30, 2012 Actuarial Valuations is known as the Entry Age Normal (EAN) Method. Under this method, benefits are projected to the assumed occurrence of future events based on future salary levels and service to date. The Normal Cost is the present value of benefits to be earned for the current year while the Actuarial Accrued Liability (AAL) is the present value of benefit earned for all prior years

Conclusion:

The level percent of pay method for both amortization of the unfunded accrued liability and the normal cost are both appropriate as a funding policy, considering that that payroll is not closed (as promulgated under SB 123.) For GASB reporting purposes (as opposed to funding purposes), a different set of numbers may need to be disclosed to account for the closed nature of the group.

Additionally, to account for the Part D subsidy in the retiree medical plan, a different set of numbers may need to be disclosed for GASB reporting purposes (again, as opposed to funding purposes). The report also recognizes that a different discount rate will need to be utilized for the GASB numbers for the retiree medical liabilities, in order to recognize the partially funded nature of that plan.

The EAN method is the most commonly used method in the public sector. The EAN method tends to produce the most stable costs- a tool widely appreciated for its budgeting purposes.

IV. Actuarial Calculations:

BACKGROUND

We reviewed sample test cases used for the June 30, 2012 valuation draft reports. In order to accomplish this, we requested a number of sample cases from Buck with intermediate statistics to assist us in analyzing the results. We combined this with our understanding of the plan provisions in an attempt to analyze the liability values produced by Buck for these sample cases only.

We received sample test cases this year for the following sample members:

- PERS (Pension and Post-retirement Health): Three actives, two retirees, one vested termination and one beneficiary
- TRS (Pension and Post-retirement Health): Three actives, two retirees, one vested termination and one beneficiary

Note that the active test lives analyzed are not necessarily exposed to all of the possible benefits under the plans (i.e. already beyond the eligibility period for certain benefits, or not eligible for particular benefits). Therefore, findings may occur for these other benefits in future audits depending on the set of test lives chosen for review at that time. However, the vast majority of the liability for each plan is due to the retirement benefits (included for all active test lives), and retirement-related withdrawal benefits (one active testlife included per plan), so any future findings are also expected to be de minimus. Also, the impact for any one test life may not be representative of the impact on the total plan.

When employing Buck's methods and assumptions, we matched the liabilities in total closely for the test cases submitted under the Pension plans for PERS and TRS, and present value of retirement benefits under the PERS Retiree Health plan. In addition we have analyzed the calculations of the ancillary benefits and have provided a summary of this detailed analysis at the end of this section. These exhibits provide a comparison of the calculations by decrement provided to us from Buck against our replication of those benefits as we interpret them from the plan provisions and assumptions.

In matching the present value of benefits, it is being determined that all benefits are being valued, and that the valuation of the liability for those benefits is consistent with the stated assumptions and methods. However, we still have some outstanding issues identified in the prior audit which would alter these test life results.

FINDINGS - ASSUMPTIONS

In the review of the testlives as well as the report we confirmed that the assumptions shown in the report were the assumptions used in the PERS and TRS valuations.

FINDINGS FROM JUNE 30, 2012 TEST LIFE AUDIT – NEW AND OUTSTANDING ISSUES IDENTIFIED WHICH ARE CLASSIFIED AS POTENTIALLY NON-TRIVIAL

In the test life review, GRS has identified three main issues which we believe should be resolved in the actuarial valuation as of June 30, 2013. Two issues were identified in our prior review, and no modification was made for the actuarial valuation as of June 30, 2012. One issue is newly identified. These three issues involve the PRPA, early retirement factors, and the retiree medical liabilities.

1. Timing of PRPA Adjustment (newly identified in 2013):

GRS Finding: The Buck valuation assumes that members are not eligible for the age-60 PRPA until age 61 and age-65 PRPA until age 66. The provision requires a member to be age 60 or 65 on July 1 (all or nothing increase).

Buck Response: Buck indicates that this is an age rounding issue and will correct it with the June 30, 2013 valuation.

2. Early Retirement Reduction in Normal Retirement Pattern:

GRS Finding: The valuation uses middle of year decrement timing (assumes members retire January 1st). Buck uses rounded middle of year age and service for eligibility and application of decrements. Buck uses an average of benefits calculated at beginning of year and end of year (rather than calculating the benefit based on the age and service at middle of year). In the majority of cases, this results in a benefit similar to the mid-year benefit calculation. However, in some test cases where members become eligible for an unreduced benefit based on service, it can cause a mismatch between the benefit amount and the benefit eligibility in the year of transition to normal retirement eligibility. This was the case in three active test cases this year.

In PERS Active Test Case 1, the member reaches first eligibility for retirement at age 55 with 29.74 years of service. A normal retirement (or unreduced retirement) decrement of 30% is applied, which is the probability of that member retiring in that year. Buck uses an effective early retirement factor of 85% (averaging 70% for beginning of the year and 100% for the end of the year). This means Buck is valuing 85% of a benefit, when the member need only wait a few months to retire with a 100% benefit. We would not apply any early retirement reduction in this case.

TRS Active Test Case 2 has a similar issue. TRS Active Test Case 3 has a similar issue with the opposite, although smaller magnitude effect. It is a case where the member, at middle of year, would only be eligible for early retirement, and the smaller decrement rates reflect this. The Buck benefit averages in an unreduced retirement into this early retirement loop year.

Buck Response: Buck indicates that the member is not eligible for normal retirement at beginning of year and should have the early retirement reduction factor applied. They indicate that there will be members that will retire on either side of the eligibility cutoff and that their methodology approximates the benefits on average.

GRS Comment: The retirement rates applied are for members “eligible for unreduced benefits” and should be applied as such. Assuming that members will take the reduced benefit when they are close to full eligibility undervalues the benefit. There is some offsetting through the early retirement benefits including unreduced benefits, but it is unlikely the magnitude is enough to fully offset the impact. The normal retirement issue will often occur at early ages when the unreduced retirement rates are 30%. Early retirement rates do not exceed 13% and often, members become eligible for retirement without ever being eligible for reduced retirement. We feel a bias remains and this issue should be corrected.

3. Service-based Post-retirement Health:

GRS Finding: Similar to the retirement benefit above, this finding relates to interpolating between beginning of year and end of year benefits in order to value a mid-year benefit. Contributions for healthcare are required for TRS Tier 2 members who retire before age 60 if they don’t have 25 years of service. Contributions for healthcare are required for PERS Other Tier 2 and Tier 3 members who retire before age 60 if they don’t have 30 years of service. Contributions for healthcare are required for PERS Peace Officers Tier 2 and Tier 3 members who retire before age 60 if they don’t have 25 years of service.

The valuation methodology assumes that 100% of members eligible for system paid coverage elect post-retirement healthcare benefits and 10% of members who must self-pay elect post-retirement healthcare benefits.

In the first year of service-based eligibility, there is interpolation between beginning of year benefits with the 10% participation rate applied and end of year benefits with the 100% participation applied. We would value both participation and eligibility for plan paid benefits at middle of year using rounded service at middle of year, consistent with the way decrement eligibility is applied.

Another issue presents in the retiree and spouse contribution benefit stream (still in the first year of service-based eligibility). Once the member is eligible for system paid coverage and the 100% participation rate is applied, the retiree contribution benefit should be \$0. Thus, if the Buck middle of year averaging is applied, it should be an average of:

- 10% - applied to the retiree contribution rate beginning of year and
- 100% - applied to \$0 because the retiree no longer contributes.

Instead, the averaged benefit appears to be the average of

- 10% - applied to the retiree contribution rate beginning of year and
- 100% - applied to the retiree contribution rate end of year.

Thus, in this first year of service-based eligibility, the retiree contributions are overstated. The retiree contributions act to reduce the liability, so the liability is understated. This problem occurs in test lives where the retiree reaches service-based retirement first. The following are types of full-time participants for whom this could be an issue:

- PERS Tier 2 and 3 Others hired between ages 25 and 30 who currently have less than 30 years of service
- PERS Tier 2 and 3 Peace Officers hired younger than age 35 who currently have less than 25 years of service
- TRS Tier 2 members hired younger than age 35 who currently have less than 25 years of service

If we use these constraints on the valuation data, we find that this issue could affect the following number of members:

- Approximately 2,600 Tier 2 and 3 Other PERS Actives
- Approximately 1,500 Tier 2 and 3 Peace Officer PERS Actives
- Approximately 3,100 Tier 2 TRS Actives

The blended participation issue (using 55% participation in a case where 100% should be used) applied to one test case this year. The member is a PERS Tier 3 Other participant. In the first year of eligibility for normal retirement, the member is age 55 and has 30.24 years of service at middle of year. We would value this year using 100% participation. Buck is averaging 10% participation and 100% participation until age 60, for an effective participation rate of 55%. Using the 100% participation assumption increases the normal retirement present value of benefits by five percent.

Buck Response: Buck agrees that the participation percentages and retiree premiums should be applied as we suggest; however, the impact to the valuation is de minimus.

GRS Comment: We need to have additional documentation to be confident that the impact is de minimus. The issues identified create a bias and understate liabilities.

**FINDINGS FROM JUNE 30, 2012 TEST LIFE AUDIT –
OUTSTANDING ISSUES IDENTIFIED WHICH ARE CLASSIFIED AS
HAVING DEMINIMIS IMPACT**

Post Retirement Pension Adjustment for Survivors:

GRS Finding: The valuation uses the retiree age for determining eligibility rather than the spouse age. Because spouses are likely to be both older and younger than members, the impact is assumed to be negligible.

Occupational disability rates during retirement eligibility:

GRS Finding: As part of the experience study, Buck chose to stop disability rates at the member's earliest retirement date. We do not concur with this change in methodology. The member may be eligible for a more valuable disability benefit during the early retirement period. The member would benefit doubly from taking the disability benefit due to tax advantages available to them. We recommended continuing to include probability for disability retirement until the member is eligible for normal retirement.

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QUANTITATIVE RESULTS

When performing the replication, we were able to match the total present value of future benefits all test cases (active and inactive, PERS and TRS, pension and healthcare) to within 2.3%. This would be considered as an overall match for purposes of the valuation.

We also included active pension test case results, assuming the change was made to the early retirement factors and PRPA timing, and active healthcare test case results, assuming the change was made to healthcare participation. After making these changes, the maximum total discrepancy on an individual test case increased to 7.4%

Actuarial Review - June 30, 2012 Comparison of Present Value of Benefits

Active Pension	GRS	Buck	% Diff	GRS*	% Diff
TRS Tier 1	512,969	513,347	-0.1%	517,555	0.8%
TRS Tier 2	211,225	210,693	0.3%	215,284	2.2%
TRS Tier 2	77,121	76,987	0.2%	77,045	0.1%
PERS Other Tier 3	73,294	73,187	0.1%	75,622	3.3%
PERS Other Tier 3	204,371	204,372	0.0%	205,099	0.4%
PERS P/F Tier 1	631,704	632,615	-0.1%	639,124	1.0%
Inactive Pension	GRS	Buck	% Diff		
TRS - Retiree 1	434,965	432,598	0.5%		
TRS - Retiree 2	163,738	163,926	-0.1%		
TRS - Deferred	54,315	54,719	-0.7%		
TRS - Beneficiary	310,631	309,129	0.5%		
PERS Peace Officer/Firefighter - Retiree	221,809	220,186	0.7%		
PERS Others - Retiree	137,305	136,235	0.8%		
PERS Other - Deferred	71,265	72,364	-1.5%		
PERS Peace Officer/Firefighter - Beneficiary	74,916	74,469	0.6%		
Active Healthcare	GRS	Buck	% Diff	GRS**	% Diff
TRS Tier 1	238,134	238,939	-0.3%	238,134	-0.3%
TRS Tier 2	78,143	78,634	-0.6%	78,143	-0.6%
TRS Tier 2	39,267	39,494	-0.6%	39,267	-0.6%
PERS Other Tier 3	17,880	17,480	2.3%	18,767	7.4%
PERS Other Tier 3	35,133	35,533	-1.1%	35,133	-1.1%
PERS P/F Tier 1	237,449	239,555	-0.9%	237,449	-0.9%
Inactive Healthcare	GRS	Buck	% Diff		
TRS - Retiree 1	271,591	276,545	-1.8%		
TRS - Retiree 2	116,460	117,268	-0.7%		
TRS - Deferred	143,353	143,118	0.2%		
TRS - Beneficiary	164,645	167,270	-1.6%		
PERS Peace Officer/Firefighter - Retiree	128,814	131,452	-2.0%		
PERS Others - Retiree	69,212	70,546	-1.9%		
PERS Other - Deferred	378,069	369,198	2.4%		
PERS Peace Officer/Firefighter - Beneficiary	86,955	88,124	-1.3%		

*After making changes to early retirement factor and PRPA timing.

**After making change to healthcare participation.

These results are further broken down by benefit and decrement type on the following pages.

NOTE

Ancillary or non-retirement benefits such as death and disability tend to be low probability events (and hence low liability) and they also tend to have many “bells and whistles” which can be valued in different ways by different actuaries. When looking at the test life results, it may be most informative to review the decrement (retirement, termination, disability, death) totals rather than each particular segment of the decrement (married non-occupational death, etc.).

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Actuarial Review of Pension and Health Plans - June 30, 2012
Comparison of Present Value of Benefits - **PERS Active Pension**

Actives	Test Case 1 - Other Tier 3				
	Basic Data:		Current Age	Credited Service	Gender
			31.8	6.7	Female
Present Value of Benefits (PVB)	Buck	GRS Replicate	% Diff	GRS Best Estimate*	% Diff
Retirement:					
Main Retirement Benefit	36,286	36,226	-0.2%	38,375	5.8%*
AK COLA	1,239	1,239	0.0%	1,281	3.4%
Total Retirement PVB	37,525	37,465	-0.2%	39,656	5.7%
Withdrawal:					
Non Vested Term	-	-	0.0%	-	0.0%
Vested Term	26,993	27,010	0.1%	27,147	0.6%
Vested Term AK COLA	961	983	2.3%	983	2.3%
Vested Term (take LS)	5,522	5,435	-1.6%	5,435	-1.6%
Vested Term (death during deferral)	229	456	99.1%	456	99.1%
Vested Term (death during deferral AK COLA)	17	4	-78.6%	4	-78.6%
Total Withdrawal PVB	33,721	33,888	0.5%	34,025	0.9%
Death:					
Non Vested NonOcc <1 svc LS Dth	-	-	0.0%	-	0.0%
Non Vested NonOcc 1<svc<5 LS Dth	-	-	0.0%	-	0.0%
NonOcc Dth Marr	130	145	11.2%	145	11.2%
NonOcc Dth Marr AK COLA	2	3	36.4%	3	36.4%
NonOcc Married LS Dth	14	13	-1.5%	13	-1.5%
NonOcc Single LS Dth	39	38	-1.4%	38	-1.4%
Occ Dth Marr (Pre-NR Conversion Benefit)	205	196	-4.4%	196	-4.4%
Occ Dth Marr (Post-NR Conversion Benefit)	306	305	-0.3%	305	-0.3%
Occ Dth Marr AK COLA (Post-NR)	9	12	31.5%	12	31.5%
Occ Single LS Dth	47	47	-1.5%	47	-1.5%
Total Death PVB	752	759	0.9%	759	0.9%
Disability:					
Non-vested LS Ben	-	-	0.0%	-	0.0%
NonOcc Dis	397	397	0.0%	397	0.0%
NonOcc Dis AK COLA	22	23	2.7%	23	2.7%
Occ Dis (Pre-NR Conversion Benefit)	412	412	0.0%	412	0.0%
Occ Dis (Post-NR Conversion Benefit)	302	299	-1.0%	299	-1.0%
Occ Dis AK COLA (Pre-NR)	25	25	0.0%	25	0.0%
Occ Dis AK COLA (Post-NR)	17	17	-1.0%	17	-1.0%
Dis Death Ben	12	8	-31.4%	8	-31.4%
Dis Death Ben AK COLA	1	0	-68.5%	0	-68.5%
Total Disability PVB	1,189	1,182	-0.6%	1,182	-0.6%
GRAND TOTAL PVB	73,187	73,294	0.1%	75,622	3.3%

*PRPA timing, early retirement

Actuarial Review of Pension and Health Plans - June 30, 2012
Comparison of Present Value of Benefits - PERS Active Pension

Actives	Test Case 2 - Other Tier 3				
<u>Basic Data:</u>	Current Age	Credited Service			Gender
	57.8	4.0			Male
Present Value of Benefits (PVB)	Buck	GRS Replicate	% Diff	GRS Best Estimate*	% Diff
<u>Retirement:</u>					
Main Retirement Benefit	186,521	186,546	0.0%	187,274	0.4%*
AK COLA	8,993	8,998	0.0%	8,998	0.0%
Total Retirement PVB	195,514	195,544	0.0%	196,272	0.4%
<u>Withdrawal:</u>					
Non Vested Term	3,393	3,386	-0.2%	3,386	-0.2%
Vested Term	-	-	0.0%	-	0.0%
Vested Term AK COLA	-	-	0.0%	-	0.0%
Vested Term (take LS)	-	-	0.0%	-	0.0%
Vested Term (death during deferral)	-	-	0.0%	-	0.0%
Vested Term (death during deferral AK COLA)	-	-	0.0%	-	0.0%
Total Withdrawal PVB	3,393	3,386	-0.2%	3,386	-0.2%
<u>Death:</u>					
Non Vested NonOcc <1 svc LS Dth	-	-	0.0%	-	0.0%
Non Vested NonOcc 1<svc<5 LS Dth	59	59	-0.2%	59	-0.2%
NonOcc Dth Marr	906	1,017	12.3%	1,017	12.3%
NonOcc Dth Marr AK COLA	45	38	-15.6%	38	-15.6%
NonOcc Married LS Dth	103	102	-1.1%	102	-1.1%
NonOcc Single LS Dth	171	170	-1.1%	170	-1.1%
Occ Dth Marr (Pre-NR Conversion Benefit)	179	170	-5.3%	170	-5.3%
Occ Dth Marr (Post-NR Conversion Benefit)	3,286	3,206	-2.5%	3,206	-2.5%
Occ Dth Marr AK COLA (Post-NR)	158	128	-19.0%	128	-19.0%
Occ Single LS Dth	224	222	-1.0%	222	-1.0%
Total Death PVB	5,132	5,111	-0.4%	5,111	-0.4%
<u>Disability:</u>					
Non-vested LS Ben	41	42	3.9%	42	3.9%
NonOcc Dis	-	-	0.0%	-	0.0%
NonOcc Dis AK COLA	-	-	0.0%	-	0.0%
Occ Dis (Pre-NR Conversion Benefit)	117	117	0.0%	117	0.0%
Occ Dis (Post-NR Conversion Benefit)	156	156	-0.2%	156	-0.2%
Occ Dis AK COLA (Pre-NR)	8	7	-14.3%	7	-14.3%
Occ Dis AK COLA (Post-NR)	9	8	-14.5%	8	-14.5%
Dis Death Ben	-	-	0.0%	-	0.0%
Dis Death Ben AK COLA	-	-	0.0%	-	0.0%
Total Disability PVB	332	330	-0.4%	330	-0.4%
GRAND TOTAL PVB	204,372	204,371	0.0%	205,099	0.4%

*PRPA timing

Actuarial Review of Pension and Health Plans - June 30, 2012
Comparison of Present Value of Benefits - **PERS Active Pension**

Actives	Test Case 3 - P/F Tier 1				
<u>Basic Data:</u>	Current Age		Credited Service		Gender
	54.8		28.2		Male
Present Value of Benefits (PVB)	Buck	GRS Replicate	% Diff	GRS Best Estimate*	% Diff
<u>Retirement:</u>					
Main Retirement Benefit	589,216	588,440	-0.1%	595,860	1.1%*
AK COLA	35,934	35,945	0.0%	35,945	0.0%
Total Retirement PVB	625,150	624,386	-0.1%	631,805	1.1%
<u>Withdrawal:</u>					
Non Vested Term	-	-	0.0%	-	0.0%
Vested Term	-	-	0.0%	-	0.0%
Vested Term AK COLA	-	-	0.0%	-	0.0%
Vested Term (take LS)	-	-	0.0%	-	0.0%
Vested Term (death during deferral)	-	-	0.0%	-	0.0%
Vested Term (death during deferral AK COLA)	-	-	0.0%	-	0.0%
Total Withdrawal PVB	-	-	0.0%	-	0.0%
<u>Death:</u>					
Non Vested NonOcc <1 svc LS Dth	-	-	0.0%	-	0.0%
Non Vested NonOcc 1<svc<5 LS Dth	-	-	0.0%	-	0.0%
NonOcc Dth Marr	737	711	-3.4%	711	-3.4%
NonOcc Dth Marr AK COLA	44	43	-1.1%	43	-1.1%
NonOcc Married LS Dth	90	90	-0.2%	90	-0.2%
NonOcc Single LS Dth	150	150	-0.2%	150	-0.2%
Occ Dth Marr (Pre-NR Conversion Benefit)	-	-	0.0%	-	0.0%
Occ Dth Marr (Post-NR Conversion Benefit)	5,658	5,538	-2.1%	5,538	-2.1%
Occ Dth Marr AK COLA (Post-NR)	336	336	0.0%	336	0.0%
Occ Single LS Dth	451	450	-0.2%	450	-0.2%
Total Death PVB	7,465	7,319	-2.0%	7,319	-2.0%
<u>Disability:</u>					
Non-vested LS Ben	-	-	0.0%	-	0.0%
NonOcc Dis	-	-	0.0%	-	0.0%
NonOcc Dis AK COLA	-	-	0.0%	-	0.0%
Occ Dis (Pre-NR Conversion Benefit)	-	-	0.0%	-	0.0%
Occ Dis (Post-NR Conversion Benefit)	-	-	0.0%	-	0.0%
Occ Dis AK COLA (Pre-NR)	-	-	0.0%	-	0.0%
Occ Dis AK COLA (Post-NR)	-	-	0.0%	-	0.0%
Dis Death Ben	-	-	0.0%	-	0.0%
Dis Death Ben AK COLA	-	-	0.0%	-	0.0%
Total Disability PVB	-	-	0.0%	-	0.0%
GRAND TOTAL PVB	632,615	631,704	-0.1%	639,124	1.0%

*PRPA timing

Actuarial Review of Pension and Health Plans - June 30, 2012
Comparison of Present Value of Benefits - TRS Pension

Actives	Test Case 1 - Tier 1				
<u>Basic Data:</u>	Current Age 50.22		Credited Service 20.8000		Gender Female
Present Value of Benefits (PVB)	Buck	GRS Replicate	% Diff	GRS Best Estimate*	% Diff
<u>Retirement:</u>					
Main Retirement Benefit	485,907.40	485,641.54	-0.1%	490,228.28	0.9%*
AK COLA	25,368.15	25,325.51	-0.2%	25,325.51	-0.2%
Total Retirement PVB	511,275.55	510,967.05	-0.1%	515,553.79	0.8%
<u>Withdrawal:</u>					
Vested Term	-	-	0.0%	-	0.0%
Vested Term AK COLA	-	-	0.0%	-	0.0%
Vested Term (take LS)	-	-	0.0%	-	0.0%
Vested Term (death during deferral)	-	-	0.0%	-	0.0%
Vested Term (death during deferral AK COLA)	-	-	0.0%	-	0.0%
Vested Term (death, single)	-	-	0.0%	-	0.0%
Total Withdrawal PVB	-	-	0.0%	-	0.0%
<u>Death:</u>					
Non Vested NonOcc 1<svc<5 LS Dth	-	-	0.0%	-	0.0%
NonOcc Dth Marr	1,026.96	934.46	-9.0%	934.46	-9.0%
NonOcc Dth Marr AK COLA	53.91	48.95	-9.2%	48.95	-9.2%
NonOcc Married LS Dth	89.53	89.72	0.2%	89.72	0.2%
NonOcc Single LS Dth	298.45	299.08	0.2%	299.08	0.2%
Occ Dth Marr (Pre-NR Conversion Benefit)	-	-	0.0%	-	0.0%
Occ Dth Marr (Post-NR Conversion Benefit)	572.15	599.32	4.7%	599.32	4.7%
Occ Dth Marr AK COLA (Pre-NR)	-	-	0.0%	-	0.0%
Occ Dth Marr AK COLA (Post-NR)	30.07	30.04	-0.1%	30.04	-0.1%
Total Death PVB	2,071.07	2,001.57	-3.4%	2,001.57	-3.4%
<u>Disability:</u>					
Non-vested LS Ben	-	-	0.0%	-	0.0%
Dis (Pre-NR Conversion Benefit)	-	-	0.0%	-	0.0%
Dis (Post-NR Conversion Benefit)	-	-	0.0%	-	0.0%
Dis AK COLA (Pre-NR)	-	-	0.0%	-	0.0%
Dis AK COLA (Post-NR)	-	-	0.0%	-	0.0%
Dis Death Ben	-	-	0.0%	-	0.0%
Dis Death Ben AK COLA	-	-	0.0%	-	0.0%
Dis Child Ben	-	-	0.0%	-	0.0%
Dis Child Ben AK COLA	-	-	0.0%	-	0.0%
Total Disability PVB	-	-	0.0%	-	0.0%
GRAND TOTAL PVB	513,346.62	512,968.62	-0.1%	517,555.36	0.8%

*PRPA timing

Actuarial Review of Pension and Health Plans - June 30, 2012
Comparison of Present Value of Benefits - TRS Pension

Actives	Test Case 2 - Tier 2				
<u>Basic Data:</u>	Current Age 44.07		Credited Service 11.5000		Gender Female
Present Value of Benefits (PVB)	Buck	GRS Replicate	% Diff	GRS Best Estimate*	% Diff
<u>Retirement:</u>					
Main Retirement Benefit	154,323.06	154,887.65	0.4%	158,664.91	2.8%*
AK COLA	5,290.38	5,304.39	0.3%	5,367.52	1.5%
Total Retirement PVB	159,613.44	160,192.04	0.4%	164,032.43	2.8%
<u>Withdrawal:</u>					
Vested Term	41,756.90	41,713.25	-0.1%	41,931.86	0.4%
Vested Term AK COLA	1,290.62	1,290.28	0.0%	1,290.28	0.0%
Vested Term (take LS)	3,391.14	3,391.13	0.0%	3,391.13	0.0%
Vested Term (death during deferral)	193.96	167.41	-13.7%	167.41	-13.7%
Vested Term (death during deferral AK COLA)	13.55	2.11	-84.4%	2.11	-84.4%
Vested Term (death, single)	69.80	7.09	-89.8%	7.09	-89.8%
Total Withdrawal PVB	46,646.17	46,564.18	-0.2%	46,782.79	0.3%
<u>Death:</u>					
Non Vested NonOcc 1<svc<5 LS Dth	-	-	0.0%	-	0.0%
NonOcc Dth Marr	1,008.17	1,042.29	3.4%	1,042.29	3.4%
NonOcc Dth Marr AK COLA	26.59	27.16	2.1%	27.16	2.1%
NonOcc Married LS Dth	87.21	87.27	0.1%	87.27	0.1%
NonOcc Single LS Dth	290.72	290.83	0.0%	290.83	0.0%
Occ Dth Marr (Pre-NR Conversion Benefit)	155.59	154.94	-0.4%	154.94	-0.4%
Occ Dth Marr (Post-NR Conversion Benefit)	479.94	507.84	5.8%	507.84	5.8%
Occ Dth Marr AK COLA (Pre-NR)	-	-	0.0%	-	0.0%
Occ Dth Marr AK COLA (Post-NR)	15.65	19.85	26.8%	19.85	26.8%
Total Death PVB	2,063.87	2,130.18	3.2%	2,130.18	3.2%
<u>Disability:</u>					
Non-vested LS Ben	-	-	0.0%	-	0.0%
Dis (Pre-NR Conversion Benefit)	1,380.57	1,380.56	0.0%	1,380.56	0.0%
Dis (Post-NR Conversion Benefit)	859.33	828.20	-3.6%	828.20	-3.6%
Dis AK COLA (Pre-NR)	76.28	76.29	0.0%	76.29	0.0%
Dis AK COLA (Post-NR)	42.87	44.05	2.8%	44.05	2.8%
Dis Death Ben	9.53	9.52	-0.1%	9.52	-0.1%
Dis Death Ben AK COLA	0.44	0.45	2.3%	0.45	2.3%
Dis Child Ben	9.59	11.05	15.2%	11.05	15.2%
Dis Child Ben AK COLA	0.57	0.66	15.8%	0.66	15.8%
Total Disability PVB	2,369.02	2,339.07	-1.3%	2,339.07	-1.3%
GRAND TOTAL PVB	210,692.50	211,225.47	0.3%	215,284.47	2.2%

*PRPA timing, early retirement

Actuarial Review of Pension and Health Plans - June 30, 2012
Comparison of Present Value of Benefits - TRS Pension

Actives	Test Case 3 - Tier 2				
<u>Basic Data:</u>	Current Age 39.37		Credited Service 2.1000		Gender Female
Present Value of Benefits (PVB)	Buck	GRS Replicate	% Diff	GRS Best Estimate*	% Diff
<u>Retirement:</u>					
Main Retirement Benefit	60,957.63	61,084.78	0.2%	61,009.34	0.1%*
AK COLA	2,038.33	2,040.65	0.1%	2,040.65	0.1%
Total Retirement PVB	62,995.96	63,125.43	0.2%	63,049.99	0.1%
<u>Withdrawal:</u>					
Vested Term	11,063.91	11,000.76	-0.6%	11,000.76	-0.6%
Vested Term AK COLA	341.98	341.98	0.0%	341.98	0.0%
Vested Term (take LS)	833.25	833.27	0.0%	833.27	0.0%
Vested Term (death during deferral)	49.25	50.92	3.4%	50.92	3.4%
Vested Term (death during deferral AK COLA)	4.76	0.76	-84.0%	0.76	-84.0%
Vested Term (death, single)	22.61	104.99	364.4%	104.99	364.4%
Total Withdrawal PVB	12,293.15	12,227.69	-0.5%	12,227.69	-0.5%
<u>Death:</u>					
Non Vested NonOcc 1<svc<5 LS Dth	30.59	30.61	0.1%	30.61	0.1%
NonOcc Dth Marr	318.67	334.25	4.9%	334.25	4.9%
NonOcc Dth Marr AK COLA	8.96	11.40	27.2%	11.40	27.2%
NonOcc Married LS Dth	27.22	27.25	0.1%	27.25	0.1%
NonOcc Single LS Dth	90.78	90.84	0.1%	90.84	0.1%
Occ Dth Marr (Pre-NR Conversion Benefit)	84.74	84.77	0.0%	84.77	0.0%
Occ Dth Marr (Post-NR Conversion Benefit)	-	-	0.0%	-	0.0%
Occ Dth Marr AK COLA (Pre-NR)	184.67	218.99	18.6%	218.99	18.6%
Occ Dth Marr AK COLA (Post-NR)	5.77	8.06	39.7%	8.06	39.7%
Total Death PVB	751.40	806.17	7.3%	806.17	7.3%
<u>Disability:</u>					
Non-vested LS Ben	14.06	14.06	0.0%	14.06	0.0%
Dis (Pre-NR Conversion Benefit)	533.56	533.58	0.0%	533.58	0.0%
Dis (Post-NR Conversion Benefit)	347.12	361.23	4.1%	361.23	4.1%
Dis AK COLA (Pre-NR)	29.40	29.39	0.0%	29.39	0.0%
Dis AK COLA (Post-NR)	17.25	17.96	4.1%	17.96	4.1%
Dis Death Ben	4.78	4.78	0.0%	4.78	0.0%
Dis Death Ben AK COLA	0.23	0.23	0.0%	0.23	0.0%
Dis Child Ben	13.88	8.29	-40.3%	8.29	-40.3%
Dis Child Ben AK COLA	0.82	0.48	-41.5%	0.48	-41.5%
Total Disability PVB	946.40	961.23	1.6%	961.23	1.6%
GRAND TOTAL PVB	76,986.91	77,120.52	0.2%	77,045.08	0.1%

*PRPA timing, early retirement. Changes were offsetting.

Actuarial Review of Pension and Health Plans - June 30, 2012 Active Pension Test Case Legend	
Benefit	Extended Description
Retirement: Main Retirement Benefit AK COLA	Early/Normal Retirement (base) Benefit Alaska Cost of Living Allowance (10% of Ret base benefit)
Withdrawal: Vested Term Vested Term AK COLA Vested Term (take LS) Vested Term (death during deferral) Vested Term (death during deferral AK COLA) Vested Term (death, single)	Deferred retirement (base) Benefit (deferred to early retirement eligibility) Alaska Cost of Living Allowance (10% of Term base benefit) Refund of employee contributions upon termination of (vested) member Death (base) Benefit payable upon death after withdrawal but before benefit commencement Alaska Cost of Living Allowance (10% of DV Dth base benefit) Return of employee contributions upon death during deferral period for single members
Death: Non Vested NonOcc 1<svc<5 LS Dth NonOcc Dth Marr NonOcc Dth Marr AK COLA NonOcc Married LS Dth NonOcc Single LS Dth Occ Dth Marr (Pre-NR Conversion Benefit) Occ Dth Marr (Post-NR Conversion Benefit) Occ Dth Marr AK COLA (Pre-NR) Occ Dth Marr AK COLA (Post-NR) Occ Single LS Dth	Refund of employee contributions upon death of non-vested member Non-Occupational Death (base) benefit Alaska Cost of Living Allowance (10% of Non-Occupational Dth base benefit) Refund of employee contributions upon non-occupational death of married (vested) member Refund of employee contributions upon non-occupational death of single (vested) member Occupational Death (base) benefit until normal retirement conversion Occupational Death (base) benefit after normal retirement conversion Alaska Cost of Living Allowance (10% of Occupational Dth base benefit pre-conversion) Alaska Cost of Living Allowance (10% of Occupational Dth base benefit post-conversion) Refund of employee contributions upon occupational death of single (vested) member
Disability: Non-vested LS Ben Dis (Pre-NR Conversion Benefit) Dis (Post-NR Conversion Benefit) Dis AK COLA (Pre-NR) Dis AK COLA (Post-NR) Dis Death Ben Dis Death Ben AK COLA Dis Child Ben Dis Child Ben AK COLA	Refund of employee contributions payable upon disability before vested Disability benefit prior to normal retirement conversion Disability benefit after normal retirement conversion Alaska Cost of Living Allowance (10% of pre-conversion disability benefit) Alaska Cost of Living Allowance (10% of post-conversion disability benefit) Death (base) Benefit payable upon death after disability Alaska Cost of Living Allowance (10% of Dis Dth base benefit) Disability (base) Child Benefit payable until eligible for normal retirement Alaska Cost of Living Allowance (10% of Temp Dis Child base benefit)

Actuarial Review of Pension and Health Plans - 2012
 Comparison of Present Value of Benefits - PERS Retiree Health

Actives	Test Case 1 - Other Tier 3					Test Case 2 - Other Tier 3 Low Svc			Test Case 3 - PF Tier 1		
Basic Data:											
Sex	Female					Male			Male		
Current Age	31.76					57.75			54.81		
Current Credited Service	6.74					4.01			28.16		
Present Value of Benefits (PVB)	GRS Replicate	Buck	% Diff	GRS Best Estimate*	% Diff	GRS	Buck	% Diff	GRS	Buck	% Diff
Retirement:											
Tier x <Member>	12,118.52	11,977.30	1.2%	12,798.24	6.9%	20,833.42	21,171.46	-1.6%	127,568.82	128,960.24	-1.1%
Tier x <Spouse>	6,901.43	6,639.65	3.9%	7,108.65	7.1%	21,668.83	21,622.99	0.2%	121,973.07	122,709.66	-0.6%
Contrib Tier 3 <Member>	-	-	0.0%	-	0.0%	(1,971.11)	(1,948.52)	1.2%	-	-	0.0%
Contrib Tier 3 <Spouse>	-	-	0.0%	-	0.0%	(1,595.18)	(1,570.94)	1.5%	-	-	0.0%
Post 65 Part D Tier 3 <Member>	(684.08)	(671.15)	1.9%	(684.08)	1.9%	(1,978.72)	(2,009.54)	-1.5%	(6,556.70)	(6,695.20)	-2.1%
Post 65 Part D Tier 3 <Spouse>	(455.87)	(465.47)	-2.1%	(455.87)	-2.1%	(1,824.64)	(1,731.98)	5.3%	(5,536.49)	(5,419.63)	2.2%
Total Retirement PVB	17,880.00	17,480.33	2.3%	18,766.94	7.4%	35,132.60	35,533.47	-1.1%	237,448.70	239,555.07	-0.9%

Inactives - PVB	GRS*	Buck	% Diff
Vested Termination - Other Tier 1 - Female	378,069	369,198	2.4%
Retiree - PF Tier 1 - Male	128,814	131,452	-2.0%
Retiree - Other Tier 1 - Male	69,212	70,546	-1.9%
Beneficiary - PF Tier 1 - Female	86,955	88,124	-1.3%

* GRS' audit of Buck's calculation includes review of the benefit amounts, annuity values, assumptions and other factors related to the PVB calculation at each projected age. Differences may exist due to different interpretations of the statutes, as well as additional items as discussed throughout this audit report.

Benefits - Buck Valuation Terminology	Description
Retirement:	
Tier x <Member>	Base Benefit Paid to Employee
Tier x <Spouse>	Base Benefit Paid to Spouse
Contrib <Member>	Employee Pre-Retirement Contributions
Contrib <Spouse>	Spouse Pre-Retirement Contributions
Post 65 Part D <Member>	Employee Post-age 65 Medicare Part D Reimbursement
Post 65 Part D <Spouse>	Spouse Post-age 65 Medicare Part D Reimbursement

*Assumes 100% participation when member has 30.24 years of service. Buck averages benefits based on 10% and 100% participation which creates a 55% participation rate.

Actuarial Review of Pension and Health Plans - 2012
 Comparison of Present Value of Benefits - TRS Retiree Health

Actives	Test Case 1 - Tier 1, high svc			Test Case 2 - Tier 2			Test Case 3 - Tier 2, low svc		
<i>Basic Data:</i>									
Sex	Female			Female			Female		
Current Age	50.22			44.07			39.37		
Current Credited Service	20.80			11.50			2.10		
Present Value of Benefits (PVB)	GRS*	Buck	% Diff	GRS*	Buck	% Diff	GRS*	Buck	% Diff
<i>Retirement:</i>									
Tier x <Member>	152,778.43	153,312.88	-0.3%	54,216.04	54,581.03	-0.7%	27,255.80	27,434.41	-0.7%
Tier x <Spouse>	98,146.25	98,582.70	-0.4%	31,519.14	31,742.70	-0.7%	15,838.20	15,934.37	-0.6%
Post 65 Part D Tier 2 <Member>	(7,346.09)	(7,425.58)	-1.1%	(3,849.90)	(3,898.78)	-1.3%	(1,890.95)	(1,914.69)	-1.2%
Post 65 Part D Tier 2 <Spouse>	(5,444.38)	(5,530.68)	-1.6%	(2,831.29)	(2,878.57)	-1.6%	(1,400.37)	(1,423.32)	-1.6%
Contrib <Member>				(521.49)	(522.13)	-0.1%	(306.79)	(307.17)	-0.1%
Contrib <Spouse>				(389.41)	(390.37)	-0.2%	(229.10)	(229.66)	-0.2%
Total Retirement PVB	238,134.20	238,939.32	-0.3%	78,143.08	78,633.88	-0.6%	39,266.79	39,493.94	-0.6%

Inactives - PVB	GRS*	Buck	% Diff
Vested Termination - Female	143,353	143,118	0.2%
Retiree - Female, Tier 1, J&S	271,591	276,545	-1.8%
Retiree - Female, Tier 2, SLA	116,460	117,268	-0.7%
Retiree - Female, Tier 1, SLA	164,645	167,270	-1.6%

* GRS' audit of Buck's calculation includes review of the benefit amounts, annuity values, assumptions and other factors related to the PVB calculation at each projected age. Differences may exist due to different interpretations of the statutes, as well as additional items as discussed throughout this audit report.

Benefits - Buck Valuation Terminology	Description*
<i>Retirement:</i>	
Tier x <Member>	Base Benefit Paid to Employee
Tier x <Spouse>	Base Benefit Paid to Spouse
Contrib <Member>	Employee Pre-Retirement Contributions
Contrib <Spouse>	Spouse Pre-Retirement Contributions
Post 65 Part D <Member>	Employee Post-Age 65 Medicare Part D Reimbursement
Post 65 Part D <Spouse>	Spouse Post-Age 65 Medicare Part D Reimbursement

SECTION 5

**REVIEW OF CONTRIBUTION RATE
DETERMINATION**

DRAFT

REVIEW OF CONTRIBUTION RATE DETERMINATION

GRS analyzed the funding method and verified the contribution rate computation (as shown in pages 18, 21, and 24 of the PERS valuation report and page 14 of the TRS valuation report). The goal is to start with the Actuarial Accrued Liabilities and the Normal Costs that are developed from the data and valuation software and compare this to the Assets in the system. The difference between the two, the Unfunded Actuarial Accrued Liability (UAAL) in conjunction with the Normal Cost forms the basis of the contributions that the Actuary recommends the system make in order to ensure that benefits can be provided for current and future retirees. As noted in the Buck report, the compensation used to develop the rates is a combination of both this plan's compensation, as well as the DCR compensation.

FINDINGS:

The calculations were reasonable and consistent with actuarial practice. It is outside of the norm to use compensation other than the compensation that relates directly to the plan; however, the Buck report provides an adequate disclosure of this method in the determination of the rates.

We verified the amortization amounts using the amortization bases as of June 30, 2012 and the new level dollar amortization and were able to reproduce the amortization amounts to within one dollar.

We noted that there was more volatility in the TRS Pension normal cost rate than we would have expected for a large stable plan with no major assumption changes. In addition, although there were assumption changes for PERS Healthcare, these changes were quantified in the February 7 letter issued by Buck. The majority of the PERS change in healthcare normal cost rate was still unaccounted for in the report; as illustrated below:

Total Normal Cost Rate			
	Pension	HC	Total
TRS 2012	12.47%	4.82%	16.73%
TRS 2011	12.18%	4.96%	17.14%
TRS 2010	12.51%	5.25%	17.76%
PERS 2012	10.65%	6.08%	17.94%
PERS 2011	10.75%	7.19%	17.94%
PERS 2010	10.22%	7.79%	18.01%

We requested additional detail on these two normal cost changes from Buck. For the PERS healthcare normal cost rate, we received the following reconciliation from Buck in an e-mail dated March 14, 2013:

PERS HC Normal Cost as of June 30, 2011	7.19%
Assumption changes (Feb. 7 letter)	-0.28%
Data driven changes	-0.34%
Excluding military service in eligibility service	-0.08%
Tier 3 eligibility of 55/10 for healthcare	<u>-0.41%</u>
PERS HC Normal Cost as of June 30, 2012	6.08%

Regarding military service and Tier 3 eligibility we received the following additional comments:

“During 2012 we performed a military service study which clarified how military service is considered for healthcare eligibility. We were including military service for healthcare eligibility; however it was brought to light during the study that military service is not considered for healthcare eligibility. Therefore, we made this update to our July 1, 2012 valuation for PERS.”

“Please recall that pension eligibility for a Tier 3 active member in PERS is age 55 with 5 years of service, while medical eligibility for the same member is age 55 with 10 years of service. While reviewing testlives for a Tier 3 active member in PERS, it was discovered that some members were inadvertently meeting medical eligibility at age 55 with 5 years of service. Therefore, we made this update to our July 1, 2012 valuation for PERS.”

For the TRS Pension Normal Cost change, we received the following response:

“This change in the pension normal cost rate was due to a change in the average Entry Age for TRS members. The Entry Age change was driven by a change in methodology for determining which members were full time/part time employees. The average Entry Age for TRS active members as of 7/1/2012 under the old methodology was 33.08, and the associated pension normal cost rate based on DB only payroll was 12.11%. The average Entry Age for TRS active members as of 7/1/2012 under the new methodology was 33.58, and the normal cost rate based on DB only payroll was 12.47%.”

GRS Comment: Changes in methodology should be described in the valuation report. We also recommend the valuation report contain an explanation for the change in normal cost.

SECTION 6

REVIEW OF ACTUARIAL VALUATION REPORT

DRAFT

REVIEW OF ACTUARIAL VALUATION REPORT

GASB No. 25 DISCLOSURE:

GASB (Governmental Accounting Standards Board) sets out guidelines for financial accounting and reporting for state and local government entities. Under GASB No. 25, the actuarial valuation reports for PERS and TRS must disclose a set of financial statistics. These include:

- Schedule of Funding Progress
- Schedule of Employer Contributions
- Notes to Required Supplementary Information

Findings:

No issues to report.

Conclusion:

Buck has indicated that they do calculate the actuarial present value of assumed Part D Retiree Drug Subsidy (RDS) payments separately. For funding purposes, the total healthcare liability is offset by the RDS amounts to conform to the ARMB's current policy of funding discounted net cash flow. Figures used for GASB 43 purposes have been illustrated without the RDS offset.

VALUATION REPORT:

GRS reviewed the June 30, 2012 valuation report for scope as well as content to determine if actuarial statistics were being reflected fairly and if the details of the plan were being correctly communicated.

Findings:

The June 30, 2012 draft valuation report submitted by Buck to the board had the following layout:

1. Actuarial Certification – This introduces the report, lists the valuation date in question, and provides a disclaimer that the results are predicated on the census data received from the Systems and the financial information received from KPMG. It also discusses the basic actuarial concepts and provides the funded ratios.

2. Report Highlights – Shows funding status, including a graph of the funding ratio history, and the employer recommended contribution rate.
3. Analysis of the Valuation – Explains the change in the funded status and calculated contribution rate. Includes retiree medical costs, investment return, and other factors. Within this section there are three sections that show the development of valuation results, basis of the valuation, and other historical information. These include projections which are beyond those commonly produced in actuarial valuation reports.

Conclusion:

We consider the scope and content of Buck's report to be effective in communicating the financial position and contribution requirements of PERS and TRS.

Within the last few years, a three-year certain normal form of payment was implemented in the valuation methods to approximate the modified cash refund. This should be included in the valuation methods and assumptions. The methodology changes which caused changes in the normal cost rates should also have been included.

ALASKA RETIREMENT MANAGEMENT BOARD

**ACTUARIAL REVIEW OF THE PUBLIC EMPLOYEES' TIER IV
AND TEACHERS' TIER III DEFINED CONTRIBUTION
RETIREMENT PLAN**

**FOR OCCUPATIONAL DEATH AND DISABILITY
AND RETIREE MEDICAL BENEFITS**

APRIL 8, 2013

April 8, 2013

Mr. Gary Bader
Chief Investment Officer
Department of Revenue, Treasury Division
Alaska Retirement Management Board
P.O. Box 110405
Juneau, AK 99811-0405

Subject: Actuarial Review of June 30, 2012 Defined Contribution Retirement (DCR) Plan valuations for the State of Alaska Public Employees' Tier IV (PERS) and Teachers' Tier III (TRS)

Dear Gary:

We have performed an actuarial review of the June 30, 2012 DCR Actuarial Valuations for PERS and TRS.

This report includes a review of:

- Occupational Death and Disability Assumptions and Benefits
- Retiree Health Care Cost Assumptions
- Actuarial Valuation Methods and Procedures
- Contribution Rate Determination
- Actuarial Valuation Report

A major part of our review is the analysis of the test lives provided by Buck Consultants. We have included exhibits in our report which summarize the detailed analysis of these sample test cases for the PERS and TRS DCR Plans, as well as a comparison of the results between Buck Consultants and GRS. We wish to thank the staff of the State of Alaska Treasury Division and Buck Consultants without whose willing cooperation this review could not have been completed.

Changes in underlying plan design and assumptions took the PERS and TRS plans from a surplus position to having an unfunded accrued liability. The total employer contribution has more than doubled. These increases in cost and liabilities precipitated a need to document the changes in the underlying plan design.

Absent documentation at the date of issuance of our report, we have concluded that there is not enough support that would permit us, as the auditing actuaries, to state that the contribution rates shown are an adequate and appropriate recognition of the costs of this plan.

Sincerely,

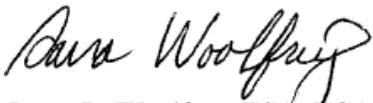
Gabriel, Roeder, Smith & Company



Leslie L. Thompson, FSA, FCA, EA, MAAA
Senior Consultant



Diane Hunt, FSA, FCA, EA, MAAA
Consultant



Dana L. Woolfrey, FSA, FCA, EA, MAAA
Consultant

cc: Ms. Judy Hall

DRAFT

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		- BUCK FEBRUARY 7, 2013 LETTER. SUBJECT: "PROPOSED ALASKA JUNE 30, 2012 RETIREE HEALTH PLAN VALUATION ASSUMPTIONS AND IMPACT ON VALUATION RESULTS (REVISED)"

SECTION 1
EXECUTIVE SUMMARY

DRAFT

EXECUTIVE SUMMARY

Gabriel, Roeder, Smith & Co. was engaged by the Alaska Retirement Management Board (ARMB) to review the Actuarial Valuations as of June 30, 2012 for the Public Employee's Retirement System Defined Contribution Retirement (DCR) Plan and the Teachers' Retirement System (TRS) Defined Contribution Plan.

This report presents our findings in the following areas:

- General Approach
- Pension Assumptions and Benefits
- Health Care Cost Assumptions
- Actuarial Valuation Methods and Procedures
- Contribution Rate Determination
- Actuarial Valuation Report
- Summary and Conclusions

KEY FINDINGS FROM THE AUDIT OF THE JUNE 30, 2012 VALUATIONS

Purpose of the audit

One of the primary purposes of the audit is to partner with the Alaska Retirement Management Board (ARMB) in their task of recommending the contribution rates for the various plans. In our review this year, we endeavored to ascertain, for the DCR retiree medical portion of the plan, the basis for the plan as well as the changes that have impacted the rates for this plan. *As of the date of the issuance of our report, we have concluded that there is not enough documentation that would permit us, as the auditing actuaries, to state that the contribution rates shown are an adequate and appropriate recognition of the costs for this plan.* We can state that the contribution rate adequately represents the costs for the plan as described in the Buck email dated March 27, 2013 (see Appendix A).

Retiree Medical Plan Issues

Documentation supporting the new policy for the funding of the plan

In reviewing the test lives, and based on conversations and written materials supplied by Buck, we see that the future changes in the trend rates for the retiree medical benefits has shifted from the retiree to a shared arrangement between the retiree and the state. The mechanics of the math as seen in the test lives support this new policy. However, we find no written documentation that this is to be the new policy effective this year and are hesitant to opine on rates reflective of a policy change without written documentation of that change. Buck has indicated that this policy was part of discussions with the Division of Retirement and Benefits (DRB); we recommend formalizing this policy in writing so that the

recommended contribution rate (which has more than doubled as a result of this change) is consistent with written and approved policies.

What plan is to be valued?

Plan design work is still underway for the DCR retiree medical plan. There are some overarching concepts that Buck has received through discussions with DRB, and which Buck has valued in this June 30, 2012 valuation. Without a fully defined plan, it is difficult to determine whether the contribution rate recommended supports the plan that will be in place when all plan details are finalized. Thus, the contribution rates, as well as the increase in the unfunded liability, represent Buck's best interpretation of the ultimate plan design, based on discussions with DRB, as documented in an email dated March 27, 2013 (see Appendix A). These DCR retiree medical overall plan design features are:

1. The State and the participants will share equally in health care cost trends over time;
2. Medical plan provisions will change annually to accommodate the cost sharing (i.e. the deductible, copays etc. will change to make the trend sharing work);
3. This "sliding scale" of the out of pocket features is an inherent design feature for this retiree medical plan;
4. By design, the medical costs in this plan will be approximately 12% lower and the prescription drug costs will be approximately 7% lower than those in the Defined Benefit plan.

We recommend that these design features be put into writing, so that the new methods and assumptions employed this year by Buck have written support and thereby provide support for the recommended contribution rate. The email with the retiree medical plan design features is included in Appendix A of this report.

What is the substantive plan?

When preparing the information to be used in the financial statement disclosures, the GASB states that the plan to be valued is the substantive plan. Paragraph #124 of Statement 43 says "This Statement requires that the measurement of the actuarial present value of total projected benefits include all benefits promised under the substantive plan--this is the plan as understood by the participating employers and plan members--at the actuarial valuation date". In the case of this DCR retiree medical plan, there is very limited understanding of what the plan is, since it is still under construction. One of the tests would be to look at other communications about the plan--for example, do the members know and understand that the plan's out of pocket features may change every year? In the email of March 27, 2013, Buck indicates that the "...substantive provisions have been communicated...". Upon review with the auditors, it may be determined that the accounting valuation (and related CAFR values) will be based on a different plan (the "substantive plan") rather than the plan upon which Buck is making their recommended contribution rates.

Accounting for OPEB

While the Actuarial Standard of Practice #6 (ASOP #6) allows for the valuation to take into account these anticipated design features (Section 3.2.1) the GASB standards do not. This means that Buck may need to perform an additional valuation in order to prepare the accounting exhibits appropriate for financial statement use. We recommend that this matter be reviewed with the auditors who prepare the financial statements which contain information on the DCR plan.

Methodology

Through the test life review completed with this audit, we generally matched the results of Buck Consultants. The liabilities shown in the Buck test lives match the reproduced liabilities within an acceptable range of tolerance. As shown later in this report, we could reproduce Buck Consultant's test lives within less than 1% variation on the benefits reviewed, using the specified assumptions in the report.

In last year's report, we recommended a change to the valuation of the Occupational Death benefits. The Occupational Death benefits payable from the DCR plans are payable to the spouse until the date that the member would have first qualified for normal retirement, either by service, or age and service (age 65 plus 10 years of service, or 30 years of service, or 25 years of service for Peace Officers and Firefighters). In communications with Buck, they verified that they had previously valued a continuation of these benefits until the member would have reached age 65 and without the 10 years of service requirement. The current valuation has incorporated a revised valuation methodology to be consistent with these plan provisions. We found no other issues with the Death and Disability benefits.

Decrement Gain/(Loss)

The gain/(loss) analysis in the valuation reports shows the following trend for the PERS and TRS plans, showing the total for pension and healthcare benefits:

HEALTHCARE AND PENSION---PERS DCR Gain/(Loss)		
In thousands		
	2012	2011
Mortality	\$672	\$212
Termination	(828)	(645)
Disability	1,036	614
New Entrants	(848)	(711)
Rehires	(154)	(92)
Other	(117)	(429)
Salary Increases	32	(67)
Medical Claims Costs	959	321
Total Gains/(Losses)	\$752	\$(797)

:

HEALTHCARE AND PENSION---TRS DCR Gain/(Loss)		
In thousands		
	2012	2011
Mortality	\$26	\$17
Termination	238	62
Disability	40	23
New Entrants	(286)	(264)
Rehires	(269)	(163)
Other	(227)	(161)
Salary Increases	0	0
Medical Claims Costs	311	107
Total Gains/(Losses)	\$(167)	\$(379)

There is a pattern of gains on mortality and disability for both plans. This means that the participants are not living as long as anticipated and fewer participants are getting disabled than expected. TRS has termination gains for the past two years, indicating higher turnover than assumed, while PERS has termination losses for the past two years, indicating lower turnover than anticipated. Since this is a relatively new plan with limited data, we would recommend monitoring the trends but not make any changes to the demographic assumptions at this time.

SUMMARY OF TEST LIFE REVIEW

We have included as a part of this report a detailed test life results summary.

- We matched the present value of benefits closely in total on test lives submitted for PERS Other, PERS P/F and TRS DCR plans. We have included exhibits in Section 4 of the report which summarize the differences in calculations by decrement for the test lives analyzed. Differences between actuarial firms will always occur due to system differences and other nuances in the calculations.
- For the death and disability benefits, the actuarial basis used for the funding of the plan lies within the range of reasonableness.
- For the retiree healthcare benefits, the math and actuarial calculations are consistent with the plan as described in Appendix A. We cannot state whether these contribution rates support the plan as understood by DRB.
- As the DCR plan grows, the gain/loss by source will be an important tool in assessing the reliability of the actuarial assumptions. Monitoring these changes year by year can aid in ensuring the assumptions are kept “up to date” with the experience of the plan.

The table on the next page shows the changes recommended by GRS both in the past years, newly identified issues and the resolution of the issue. Newly identified issues are bolded.

Issue	GRS Recommendations	Plan		Buck Comments
1. PERS Peace Officer/Firefighter a. Final Average Earnings for disability monthly benefits	Should use three year average instead of five year average.	DCR PERS-PF	✓	Buck agreed to change and was correctly revised in 2010
2. DCR Reports a. Participation reconciliation grid b. Gain/loss by source c. Amortization method description d. Definition of normal retirement eligibility e. Description of payment of occupational death benefit f. Mortality disclosure	Was not included in 2009 Was not included in 2009 Enhance clarification Include in report for different employee groups Clarify that normal retirement is determined assuming the member had lived Add comment on margin for future mortality improvements	DCR Reports DCR Reports DCR Reports DCR Reports DCR Reports DCR Reports	✓ ✓ ✓ ✓ ✓ ✓	Included in 2010 report Included in 2010 report Included in 2010 report Report includes definition Buck confirmed that they are now valuing this way in 2012 Added in 2012
3. Retiree Medical Plans a. Participation assumed to be 100% b. Claims cost	Study and adopt participation rates Provide additional information on adjustments to costs	DCR Retiree Health DCR Retiree Health	✓ ✓	Adopted assumptions and included in valuation in 2010 Added in 2010
4. Occupational Death Benefit	Stop payment at earliest normal retirement eligibility instead of age 65.	DCR PERS, TRS	✓	Buck agreed to change and was correctly revised in 2012
5. Retiree medical plan--new policy on plan funding and change in plan value	Written documentation on adopted funding policy, cost-sharing and relative value of plan provisions.	DCR PERS, TRS	<input checked="" type="checkbox"/>	Buck provided summary of discussions with DBR

SECTION 2
GENERAL APPROACH

DRAFT

GENERAL APPROACH

Gabriel, Roeder, Smith & Co. was charged with reviewing the actuarial valuations of TRS and PERS DCR plans.

We requested a number of items from Buck Consultants in order to perform the actuarial review:

1. In December, 2012, we received valuation data for both plans and in January, 2013 we received the pension and healthcare test lives for the PERS and TRS DCR plans.
2. We received the DCR draft reports in February, 2012.
3. We received the assumption change and impact letter from Buck dated February 7, 2013 and the DCR retiree medical schedule from Buck dated March 27, 2013 (see Appendix A for both documents).

In performing our review, we:

1. Reviewed actuarial assumptions – we checked to see if they were consistent, comprehensive, and appeared reasonable.
2. Reviewed the changes to the actuarial assumptions as described in the June 30, 2012 valuation reports and letter from Buck dated February 7, 2013.
3. Reviewed the actuarial valuation reports as of June 30, 2012 for completeness, GASB compliance and a review of financial determinations.
4. Reviewed, in detail, the sample members provided us – This provided us with a perspective on the actuarial process utilized by Buck with respect to the plan and allowed us to review the valuation methods and procedures.
5. Reviewed the health cost assumptions and trend.
6. Identified areas for future more detailed review.

KEY ACTUARIAL CONCEPTS

An actuarial valuation is a detailed statistical simulation of the future operation of a retirement system using the set of actuarial assumptions adopted by the Board. It is designed to simulate all of the dynamics of such a system for each current system member including:

1. Earning future service and making contributions,
2. Receiving changes in compensation,
3. Leaving the system through job change, disablement, death, or retirement, and
4. Determination of and payment of benefits from the System.

This simulated dynamic is applied to each active member of the System. It results in a set of expected future benefit payments to that member. Bringing those expected payments to present value, at the assumed rate of investment return, produces the Actuarial Present Value (“APV”) of future benefits for that member. In like manner, an APV of future salaries is determined.

The actuarial present value of future benefits and the actuarial present value of future salaries for the entire System are the total of these values across all members. The remainder of the actuarial valuation process depends upon these building blocks.

Once the basic results are derived, an actuarial method is applied in order to develop information on contribution levels and funding status. An actuarial method splits the actuarial present value of future benefits into two components:

1. Present value of Future Normal Costs, and
2. Actuarial Accrued Liability (“AAL”).

The actuarial method in use by the State of Alaska is known as the Entry Age Normal (EAN) method. Under entry age normal funding method, the Normal Cost for a member is that portion of the Actuarial Present Value of the increase in the value of that member’s benefit for service during the upcoming year. The actuarial accrued liability is the difference between the total actuarial present value and the present value of all future normal costs.

For TRS and PERS DCR plans, a present value of future benefits applies to the following benefits:

- Occupational Disability benefits
- Occupational Death benefits
- Retiree Medical benefits

The retiree medical benefits are based on potential future retiree health care benefits, while the others are a type of post-employment income replacement benefit, based on salary. For the medical benefits, estimates must be made of the future health care costs. This is done by determining current per capita health care claim costs by age of retiree, and projecting them into the future based on anticipated future health care inflation.

Since the DCR plan is relatively new, and based on members hired after 2006, and on different health plan rules, Buck has used the claim costs from the defined benefit plan with adjustments for this particular population. Buck has indicated that it is the intent to have the DCR medical plan designed at 88.1% of the value of the Defined Benefit retiree medical plan. We concur with this approach generally, but have not been provided support for this adjustment value. We recommend more documentation on the tactics (deeper network discounts and utilization changes) which will create this plan.

SECTION 3

REVIEW OF ASSUMPTIONS AND BENEFITS

REVIEW OF ASSUMPTIONS AND BENEFITS

GENERAL

In our review of the testlives as well as the report we confirmed that the assumptions shown in the report were the assumptions used in the PERS and TRS DCR valuations.

BACKGROUND

The findings below are based on the detailed review of the following test lives summarized in exhibits at the end of Section 4:

Pension Plans

- PERS Peace Officer/Firefighter (POLICE/FIRE) : One active
- PERS – Other: One active
- TRS: One active

Medical Plans

- PERS Peace Officer/Firefighter (POLICE/FIRE) : One active
- PERS – Other: One active
- TRS: One active

Note that the active test lives analyzed are not necessarily exposed to all of the possible benefits under the plans (i.e. already beyond the eligibility period for certain benefits, or not eligible for particular benefits). Therefore, findings may occur for these other benefits in future audits depending on the set of test lives chosen for review at that time. Also, the impact for any one test life may not be representative of the impact on the total plan.

ECONOMIC ASSUMPTIONS

General

These assumptions simulate the impact of economic forces on the amounts and values of future benefits. Key economic assumptions are the assumed rate of investment return and assumed rates of future salary increase.

Economic assumptions are normally defined by an underlying inflation assumption. Buck has cited 3.12% as its inflation assumption. In recent years, long-term inflation forecasts have been declining. With the decline, the 3.12% inflation assumption is now at the higher end of the generally accepted range.

Investment Return Assumption

The nominal investment return assumption, net of all investment and administrative expenses, was changed to 8.00% from 8.25% in 2010. GRS agrees with this change. Combined with the 3.12% inflation assumption, this yields a 4.88% real net rate of return. This 4.88% real return should be continuously tested with the PERS and the TRS DCR asset allocation.

Retiree Medical Plan Assumptions

The following assumptions were modified in the June 30, 2012 valuations for the DCR plans:

- Relative value of medical benefits was reduced from 94.1% to 88.1%;
- Relative value of pharmacy benefits was reduced from 99.3% to 92.9%;
- Participation rates were modified;
- Member cost-sharing offset was reduced from 4.8% to 0.2%;
- Per capita claims cost updated;
- Healthcare cost trends updated.

These changes have a significant impact on the valuation results, as can be seen in the table below, showing results “Before” and “After” the assumptions changes:

	Unfunded Liability/(Surplus) (in millions)			Total Employer Contribution Requirement (% of DCR pay)			Funded Status	
	2012		2011	2012		2011	2012	2011
	After	Before*		After	Before*		After	
PERS	\$22.0	(\$6.3)	(\$5.8)	1.96%	0.82%	0.77%	53.1%	143.8%
TRS	\$7.6	(\$3.9)	(\$3.7)	2.04%	0.47%	0.47%	55.0%	196.1%

*Developed from information in Buck’s June 30, 2012 valuation reports

In the valuation reports and in a February 7, 2013 letter in Appendix A, Buck provided the following support for the DCR assumptions changes:

- Relative values were reduced to reflect “...anticipated reduced costs due to deeper network discounts over time and higher, plan design-driven network utilization...”;
- Participation rates were reduced to reflect “...the potential for relocation and election of alternatives in the individual marketplace...” In addition they were modified to reflect that participants have the option to elect coverage prior to Medicare eligibility while paying full cost;
- The change in the cost-sharing adjustment was the result of discussions Buck Consultants had with DBR that the healthcare cost trend should be shared equally between retirees and the plan. The previous valuation assumed most of the healthcare cost trend would be paid for by the retiree. Buck had assumed a member’s out-of-pocket expenses would increase to

absorb future increases in the total cost of medical care. In the 2012 valuation, Buck assumed greater cost equality in the sharing of future trend between the State and the member.

We are concerned that the basis for the relative value difference is deeper network discounts. Understanding the structure of the new network will help provide assurance that the relative value differences can be achieved.

The assumption change on cost-sharing results is the single most important factor in the increase in the contribution requirements. As noted in the Executive Summary, we have not been provided enough documentation on this or the relative value adjustment to conclude that the new assumptions are appropriate for developing the costs of the retiree medical plan.

Other Assumptions

Since this is a relatively new plan, the expectation is that payroll growth will be high initially and then level out. The assumption used in the valuation is that payroll will grow at a rate of 3.63% per year.

The growth in the total covered payroll for the TRS and PERS plans follow this trend of high initial growth as shown below. In 2011, the payroll growth was significantly lower than this year due mainly to the impact of the recession on hiring and salary increases.

Payroll growth history

- 94% in 2008 valuation
- 55% in 2009 valuation
- 34% in 2010 valuation
- 17% in 2011 valuation
- 25% in 2012 valuation

In the past several years, we have noticed that, even though there were gains on medical claims costs, the healthcare portion of the PERS plan (separated from the pension benefits) had net losses for the past two years. New Entrants and Rehires will always be a source of loss on the accrued liability, but they will have offsetting contributions entering the plan. Termination (PERS) and the “other” category appear to be the sources to watch. In exploring these losses we recommend a discussion with Buck to determine what is creating those losses, whether the source of those losses is expected to occur every year and finally, whether an explicit assumption ought to be set (or altered) for those sources of loss so that they are prefunded. We expect some volatility in the gains and losses of a new plan, and we recommend further analysis on the losses so they do not compound over time and create unexpected rate increases.

HEALTHCARE ONLY---PERS DCR Gain/(Loss)		
In thousands		
	2012	2011
Mortality	\$5	\$8
Termination	(784)	(626)
Disability	47	39
New Entrants	(729)	(625)
Rehires	(140)	(86)
Other data and programming	(389)	(114)
Medical claims cost	959	321
Total gain/(loss)	(\$1,031)	(\$1,083)

HEALTHCARE ONLY---TRS DCR Gain/(Loss)		
In thousands		
	2012	2011
Mortality	\$(5)	\$(3)
Termination	238	62
Disability	(4)	(2)
New Entrants	(281)	(262)
Rehires	(267)	(162)
Other data and programming	(244)	(131)
Medical claims cost	311	107
Total gain/(loss)	\$(252)	\$(391)

Claim costs were estimated based on the claim costs in the defined benefit plan. Buck made adjustments to these claim costs to reflect the different population and differing plan provisions. We concur with this approach, but have not been provided support for the modification of this adjustment value.

SECTION 4

REVIEW OF ACTUARIAL VALUATION METHODS AND PROCEDURES

REVIEW OF ACTUARIAL VALUATION METHODS AND PROCEDURES

I. Background

An actuarial valuation is a detailed statistical simulation of the future operation of a retirement system using the set of actuarial assumptions adopted by the Board.

The actuarial values generated from this process are based not only on these assumptions, but also on the additional assumptions built into each actuarial firm's pension valuation software.

Our scope for performing the review did not include a complete replication of the valuation results as determined by Buck Consultants at June 30, 2012. Rather, we reviewed a number of sample test lives from Buck in great detail, and made our determinations as to whether the methods and assumptions being employed were being done so properly.

Though this approach does not meet the rigors of a full scale replication of results – it still serves as a strong indicator of the appropriateness of the assumptions and methods being used to value the liabilities and determine the costs for these plans.

II. Process:

Our review process can be summarized as follows:

Computation: Valuation Liabilities

We analyzed test cases to compare the Actuarial Liability under the EAN funding method for the test cases of the PERS and TRS DCR Plans. As a starting point, we wanted to first replicate Buck's test case liabilities by using their assumptions and methods to ensure that the computations were in sync with the descriptions listed in the valuation report.

When conducting an actuarial audit, and reviewing the testlives, we look at the projected benefits at each age for each decrement type. We also look at the component of the benefit (final average earnings and years of service). This is critical to understanding what the valuation system is actually valuing and making sure that the valuation is not "right for the wrong reasons", (meaning, errors could occur in two different directions making total liabilities approximate a correct value.)

We also review the construction of the commutation functions- the varying probabilities for each decrement and the discounting to the valuation date.

III. Actuarial Method:

Findings:

The actuarial method used for producing Alaska PERS and TRS DCR June 30, 2012 Actuarial Valuations is known as the Entry Age Normal (EAN) Method. Under this method, benefits are projected to the assumed occurrence of future events based on future salary levels and service to date. The Normal Cost is the present value of benefits to be earned for the current year while the Actuarial Accrued Liability (AAL) is the present value of benefit earned for all prior years

Conclusion:

To account for the Part D subsidy in the retiree medical plan, a different set of numbers has been disclosed for GASB reporting purposes (again, as opposed to funding purposes). We concur with this approach.

IV. Actuarial Calculations:

We reviewed sample test cases used for the DCR June 30, 2012 valuation draft reports. In order to accomplish this, we requested a number of sample cases from Buck with intermediate statistics to assist us in analyzing the results. We combined this with our understanding of the plan provisions in an attempt to analyze the liability values produced by Buck for these sample cases only.

Conclusion and Results:

Overall, we matched the liabilities in total quite closely for the test cases submitted under the DCR retiree and pension plans for PERS Other and TRS. These exhibits provide a comparison of the calculations by decrement provided to us from Buck against our replication of those benefits as we interpret them from the plan provisions and assumptions. We completed this detail for all active test lives under the PERS and TRS DCR.

DEATH AND DISABILITY PLANS

For PERS Other pension, the test life actuarial present value match was within 0.2% on the test case shown. This would be considered as an overall match for purposes of the valuation.

For PERS Peace Officer/Firefighter pension, the test life actuarial present value match was within less than 0.1% in total on the test case shown. This would be considered as an overall match for purposes of the valuation.

For TRS pension, the test life actuarial present value match was within 0.2% on the test case shown. This would be considered as an overall match for purposes of the valuation.

RETIREE HEALTH PLANS

For PERS Other retiree health, the test life actuarial present value match on the retirement benefits decrement for active members was within 0.6%. This is considered a reasonable match, as the retirement benefit decrement consists of approximately 90% of the total actuarial present value.

For PERS Peace Officer/Firefighter retiree health, the test life actuarial present value match on the retirement benefits decrement for active members was within -.8%. This is considered a reasonable match, as the retirement benefit decrement consists of approximately 90% of the total actuarial present value.

For TRS retiree health, the test life actuarial present value match on the retirement benefits decrement for active members was within less than 0.1%. This is considered a reasonable match, as the retirement benefit decrement consists of approximately 90% of the total actuarial present value.

We conclude that the test lives are calculated correctly using the underlying assumptions. Our issues regarding the plan provisions and cost-sharing assumptions for the retiree health benefits are discussed in the Executive Summary.

ALASKA RETIREMENT MANAGEMENT BOARD

Actuarial Review of DCR Pension and Health Plans - June 30, 2012

Comparison of Present Value of Benefits - DCR PERS and TRS Pension

Actives	Test Case 1 - PERS Other		
<u>Basic Data:</u>		<u>Basic Data:</u>	
Sex	Female	Tier	4
Current Age	28.82	Full time %	100%
Current Credited Service	3.86		
Present Value of Benefits (PVB)	GRS*	Buck	% Diff
<u>Disability:</u>			
DCR	475.24	474.56	0.1%
Total Disability PVB	475.24	474.56	0.1%
<u>Death:</u>			
DCR - married only	216.31	215.63	0.3%
Total Death PVB	216.31	215.63	0.3%
GRAND TOTAL PVB	691.56	690.19	0.2%

Actives	Test Case 2 - PERS PF		
<u>Basic Data:</u>		<u>Basic Data:</u>	
Sex	Male	Tier	4
Current Age	32.12	Full time %	100%
Current Credited Service	5.84		
Present Value of Benefits (PVB)	GRS*	Buck	% Diff
<u>Disability:</u>			
DCR Deferred & Immed Ben	6,048.13	6,049.17	0.0%
DCR	3,743.21	3,743.33	0.0%
Total Disability PVB	9,791.34	9,792.50	0.0%
<u>Death:</u>			
DCR - married only (revised)	2,391.24	2,386.54	0.2%
Total Death PVB	2,391.24	2,386.54	0.2%
GRAND TOTAL PVB	12,182.58	12,179.04	0.0%

Actives	Test Case 3 - TRS		
<u>Basic Data:</u>		<u>Basic Data:</u>	
Sex	Female	Tier	3
Current Age	33.51	Full time %	100%
Part-Time Credited Service	3.00		
Present Value of Benefits (PVB)	GRS*	Buck	% Diff
<u>Disability:</u>			
DCR	164.42	164.07	0.2%
Total Disability PVB	164.42	164.07	0.2%
<u>Death:</u>			
DCR - married only	114.93	114.82	0.1%
Total Death PVB	114.93	114.82	0.1%
GRAND TOTAL PVB	279.36	278.89	0.2%

Benefits - Buck Valuation Terminology	
<u>Disability:</u>	
DCR Deferred Ben	Disability benefit payable upon eligibility for retirement (based on ret plan formula)
DCR Immed Ben	Disability benefit payable until eligible for normal retirement (based on ret plan formula)
DCR	Occupational base disability benefit base on percent of pay (40% of salary)
<u>Death:</u>	
DCR - married only	Occupational death benefit payable as annuity to spouse

* GRS' audit of Buck's calculation includes review of the benefit amounts, annuity values, assumptions and other factors related to the PVB calculation at each projected age. Differences may exist due to different interpretations of the statutes, as well as additional items as discussed throughout this audit report.

ALASKA RETIREMENT MANAGEMENT BOARD

Actuarial Review of DCR Pension and Health Plans - June 30, 2012

Comparison of Present Value of Benefits - DCR PERS and TRS Retiree Health

Test Case 1 - PERS Other				Test Case 2 - PERS PF			
Actives		Test Case 1 - PERS Other		Actives		Test Case 2 - PERS PF	
<u>Basic Data:</u>		<u>Basic Data:</u>		<u>Basic Data:</u>		<u>Basic Data:</u>	
Sex	Female	Tier	4	Sex	Male	Tier	4
Current Age	28.82	Full time %	100%	Current Age	32.12	Full time %	100%
Current Credited Service	3.86			Current Credited Service	5.84		
Present Value of Benefits (PVB)	GRS*	Buck	% Diff	Present Value of Benefits (PVB)	GRS*	Buck	% Diff
<u>Retirement:</u>				<u>Retirement:</u>			
Post 65 DCR <Member>	1,889.71	1,871.34	1.0%	Post 65 DCR <Member>	9,910.13	9,995.23	-0.9%
Post 65 DCR <Spouse>	1,120.94	1,117.70	0.3%	Post 65 DCR <Spouse>	8,361.89	8,366.28	-0.1%
Contrib DCR <Member>	188.97	187.85	0.6%	Contrib DCR <Member>	1,061.86	1,110.69	-4.4%
Contrib DCR <Spouse>	112.09	112.19	-0.1%	Contrib DCR <Spouse>	892.69	924.25	-3.4%
Post 65 Part D DCR <Member>	207.44	208.60	-0.6%	Post 65 Part D DCR <Member>	1,104.54	1,117.56	-1.2%
Post 65 Part D DCR <Spouse>	121.88	123.40	-1.2%	Post 65 Part D DCR <Spouse>	930.84	937.49	-0.7%
Total Retirement PVB	3,641.04	3,621.08	0.6%	Total Retirement PVB	22,261.95	22,451.50	-0.8%
Actives		Test Case 3 - TRS		Benefits - Buck Valuation Terminology			
<u>Basic Data:</u>		<u>Basic Data:</u>		<u>Retirement:</u>			
Sex	Female	Tier	3	Post 65 DCR <Member>	Base benefit paid to employee while employee is at least 65		
Current Age	33.51	Full time %	100%	Post 65 DCR <Spouse>	Base benefit paid to spouse while employee is at least 65		
Current Credited Service	3.00			Contrib DCR <Member>	Employee pre-retirement contributions		
Present Value of Benefits (PVB)	GRS*	Buck	% Diff	Contrib DCR <Spouse>	Spouse pre-retirement contributions		
<u>Retirement:</u>				Post 65 Part D DCR <Member>	Employee post-age 65 Medicare Part D reimbursement		
Post 65 DCR <Member>	7,298.75	7,281.66	0.2%	Post 65 Part D DCR <Spouse>	Spouse post-age 65 Medicare Part D reimbursement		
Post 65 DCR <Spouse>	4,765.54	4,775.55	-0.2%				
Contrib DCR <Member>	729.87	728.17	0.2%				
Contrib DCR <Spouse>	476.55	477.56	-0.2%				
Post 65 Part D DCR <Member>	805.70	806.93	-0.2%				
Post 65 Part D DCR <Spouse>	521.04	524.46	-0.7%				
Total Retirement PVB	14,597.46	14,594.33	0.0%				

* GRS' audit of Buck's calculation includes review of the benefit amounts, annuity values, assumptions and other factors related to the PVB calculation at each projected age. Differences may exist due to different interpretations of the statutes, as well as additional items as discussed throughout this audit report.

SECTION 5

REVIEW OF CONTRIBUTION RATE DETERMINATION

REVIEW OF CONTRIBUTION RATE DETERMINATION

GRS was to analyze the funding method being used and verify its computation. The goal here is to start with the Actuarial Accrued Liabilities and the Normal Costs that are developed from the data and valuation software and compare this to the Assets in the system. The difference between the two, the Unfunded Actuarial Accrued Liability (UAAL) in conjunction with the Normal Cost forms the basis of the contributions that the Actuary recommends the system make in order to ensure that benefits can be provided for current and future retirees.

FINDINGS:

The calculations were reasonable and consistent with actuarial practice. Our issues regarding the plan provisions and cost-sharing assumptions for the retiree health benefits are discussed in the Executive Summary.

As discussed previously, we are unable to state whether these contribution rates support the yet-to-be developed plan, since the retiree medical plan is not yet fully described.

SECTION 6

REVIEW OF ACTUARIAL VALUATION REPORT

DRAFT

REVIEW OF ACTUARIAL VALUATION REPORT

GASB No. 25 DISCLOSURE:

GASB (Governmental Accounting Standards Board) sets out guidelines for financial accounting and reporting for state and local government entities. Under GASB No. 25, the actuarial valuation reports for DCR PERS and TRS must disclose a set of financial statistics. These include:

- Schedule of Funding Progress
- Schedule of Employer Contributions
- Notes to Required Supplementary Information

Findings:

No issues to report.

Conclusion:

Buck has indicated that they do calculate the actuarial present value of assumed Part D Retiree Drug Subsidy (RDS) payments separately. For funding purposes, the total healthcare liability is offset by the RDS amounts to conform to the ARMB's current policy of funding discounted net cash flow. Figures used for GASB 43 purposes have been appropriately illustrated without the RDS offset.

VALUATION REPORT:

GRS reviewed the June 30, 2012 DCR valuation reports for scope as well as content to determine if actuarial statistics were being reflected fairly and if the details of the plan were being correctly communicated.

Findings:

The June 30, 2012 DCR draft valuation reports submitted by Buck had the following layout:

1. Actuarial Certification – This introduces the report, lists the valuation date in question, and provides a disclaimer that the results are predicated on the census data received from the Systems and the financial information received from KPMG. It also discusses the basic actuarial concepts and provides the funded ratios.

2. Report Highlights – Shows funding status and the employer recommended contribution rate.
3. Analysis of the Valuation – Explains the change in the funded status and calculated contribution rate. Includes retiree medical costs, investment return, and other factors. Within this section there are three sections that show the development of valuation results, basis of the valuation, and other historical information.
4. Disclosure – Actuarial Standards of Practice No. 35, “Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations” requires additional disclosures in valuation reports effective July 1, 2011. The standard requires that the “disclosure of the mortality assumption should contain sufficient detail to permit another qualified actuary to understand the provision made for future mortality improvement.” The valuation report has been revised this year to include information on future mortality improvement.

Conclusion:

- We consider the scope and content of Buck’s report to be effective in communicating the financial position and contribution requirements of the PERS and TRS DCR plans. We believe it is in accordance with standard actuarial reporting methodologies for public sector systems. We recommend that when plan provisions valued are not yet finalized that Buck indicate this in their valuation report.

APPENDIX

DRAFT

From: Hulla, Christopher [<mailto:Christopher.Hulla@buckconsultants.com>]
Sent: Wednesday, March 27, 2013 2:23 PM
To: Puckett, Jim P (DOA); (mike.barnhill@alaska.gov)
Cc: Thompson, Leslie (DAP1); Bissett, Melissa; Slishinsky, David; Ringel, Tammy; Kaltenbach, Kyla
Subject: DCR Tier medical valuation
Importance: High

Mike, Jim:

This email serves to document mutual understanding among the Department, Buck and GRS as regards the evolving features of the DCR medical plan and assumptions recommended to value those features as of July 1, 2012.

As regards plan design, the middle column in the table below and attached contains key out-of-pocket features included in Buck DCR medical valuations through July 1, 2011. The rightmost column contains key out-of-pocket features included in Buck DCR medical valuations as of July 1, 2012. The relative value of DCR medical plan features as of July 1, 2012 to DB medical plan features is 0.881, as described in Buck's January 4 and February 7, 2013 letters (this ratio was 0.941 as of July 1, 2011 and earlier). The relative value of DCR Rx plan features as of July 1, 2012 to DB medical plan features is 0.929 (this ratio was 0.993 as of July 1, 2011 and earlier). It is understood that DCR medical plan out-of-pocket amounts will increase each year with an appropriate trend factor such that the plan and participants share equally in health care cost trend over time. Put another way, substantive provisions have been communicated, but no official DCR medical plan yet exists. Therefore, the table below and attached constitutes the most appropriate bases for valuation of the DCR medical plan through July 1, 2011 and as of July 1, 2012, respectively. By reply confirmation we ask that you affirm your understanding of the DCR medical plan design evolution is the same as stated here.

Feature	DCR 7/1/2011 and Prior	DCR 7/1/2012
Annual Deductible	\$250 Individual \$500 Family (\$750 but valuation assumes max 2-party contract)	\$250 Individual \$500 Family
Annual out of Pocket Maximum	Single: \$2,500 Family: \$5,000 (\$2,500 / person but valuation assumes max 2-party contract)	In-Network Single: \$2,500 Network Family: \$5,000 Network Single: \$5,000 Out-of Network Family: \$10,000
Lifetime Maximum	\$2,000,000 with \$5,000 restore	\$3,000,000 with \$5,000 restore
Preventive Care Well Baby and annual Physicals	N/A	Max benefit \$2,000/member/year
Physician Visits	80% after deductible	80% after deductible In-Network; 60% Out-of-Network
Specialist Visits	80% after deductible	80% after deductible In-Network; 60% Out-of-Network
MRI/CAT/Pet Scan	80% after deductible	80% after deductible In-Network; 60% Out-of-Network
Lab and X-ray	80% after deductible	80% after deductible In-Network; 60% Out-of-Network
Maternity Care Office Visits, Labs, X-rays	80% after deductible	80% after deductible In-Network; 60% Out-of-Network
Physical, Speech and Occupational Therapy, Chiropractor Visits, Acupuncture Treatment	80% after deductible	80% after deductible In-Network; 60% Out-of-Network
Inpatient Hospital Including for child birth	80% after deductible	80% after deductible In-Network; 60% Out-of-Network
Outpatient Surgery	80% after deductible	80% after deductible In-Network; 60% Out-of-Network
Emergency Room Visits	80% after deductible	\$100 Co-pay
Home Health Care	80% after deductible	80% after deductible In-Network; 60% Out-of-Network
Skilled Nursing Facility	80% after deductible	80% after deductible In-Network; 60% Out-of-Network
Mental Health	80% after deductible	80% after deductible In-Network; 60% Out-of-Network
Procedures requiring Certification	80% after deductible	80% after deductible In-Network; 60% Out-of-Network
Chemical Dependency	80% after deductible	80% after deductible In-Network; 60% Out-of-Network
Prescription Drug Program	80% after deductible (with minimum and maximum copays and flat mail-order copays but valuation uses 80% coinsurance)	80% after deductible In-Network; 60% Out-of-Network

As regards the benefit value adjustment for increasing member cost sharing features, Buck recommends moving from a 4.8% trend offset to trend each year to a 0.2% offset. The 4.8% factor was used for prior years when our understanding was that the intent of the DCR medical plan was for retirees to bare the majority of trend increases. The 0.2% factor better reflects our current understanding that the plan and participants share equally in health care cost trend over time. This change in assumptions drives an approximately threefold increase in the retiree healthcare normal

cost rate, as described in Buck's work during 2012 that showed how sensitive DCR medical valuation results are to a range of assumptions used to project future plan costs. Note that we propose additional assumption changes for the DCR healthcare valuation as of 7/1/2012 (modified HCCTR and contributory participation) that modify the impact of the revised benefit value adjustment for increasing member cost sharing features. Finally, overall favorable claims experience at 7/1/2012 also modifies the impact of the revised benefit value adjustment for increasing member cost sharing features. By reply confirmation we ask that you affirm your understanding of the DCR medical plan benefit value adjustment for increasing member cost sharing features is the same as stated here.

Leslie – please do let us know if you think this email suffices for the OPEB follow up suggested on our call and in your email to Buck dated 3/19/2013.

thx

Chris Hulla
Principal, Health and Productivity
Buck Consultants, A Xerox Company
1200 17th Street, Suite 1200
Denver, CO 80202

DRAFT

February 7, 2013

VIA EMAIL

Mr. Jim Puckett
 Mr. Mike Barnhill
 State of Alaska
 PO Box 110203
 Juneau AK 99811

Re: Proposed Alaska June 30, 2012 Retiree Health Plan Valuation Assumptions and Impact on Valuation Results (Revised)

Dear Jim and Mike:

As per our discussion on December 20, 2012, Buck Consultants (Buck) is proposing health cost, plan factors and cost increase assumption updates for use in the June 30, 2012 valuation results. We review key health plan assumptions annually and assess the need to make changes. We recommend an update in these assumptions as they were last updated at least 4 years ago (for the June 30, 2008 valuation), plus recent DCR plan design strategies, healthcare legislation, and variations in costs between Medicare and non-Medicare populations indicate a need to update these assumptions. We have revised our previous letter of January 4, 2013 to include the impact on the Normal Cost rates as discussed on February 4, 2013.

Retiree Healthcare Cost Rates

- Buck reviews and update these rates annually based on updated claim cost reporting.
- Recent experience and new data used to update the proportion of individuals not eligible for Medicare Part A are the drivers for favorable per capita claim cost increases.
- Rates below are age 65 per capita claim cost (PCCC) rates
- Applies to all plans: PERS/TRS/JRS – defined benefit and PERS/TRS DCR plan

Cost Category	PCCC used 6/30/2011	PCCC expected 6/30/2012	Increase	PCCC proposed 6/30/2012	Variance from expected	Estimated Aggregate Impact to Valuation Results (APBO)
Pre-Medicare Medical	\$ 9,497	\$ 10,105	6.4%	\$ 9,856	(2.5%)	(6.1%)
Medicare A&B Medical	\$ 1,551	\$ 1,650	6.4%	\$ 1,628	(1.3%)	
Medicare B only Medical	\$ 6,936	\$ 7,380	6.4%	\$ 6,219	(15.7%)	
Prescription Drug	\$ 2,799	\$ 2,998	7.1%	\$ 2,736	(8.7%)	
Retiree Drug Subsidy	\$ 534	\$ 572	7.1%	\$ 535	(6.5%)	

Retiree Healthcare Cost Rates

Impact to Normal Cost Rates

Group	Impact to Normal Cost Rate
PERS	(0.32%)
TRS	(0.20%)
PERS – DCR	(0.03%)
TRS - DCR	(0.03%)

Retiree Healthcare Cost Trend Rates

- Buck reviews this assumption annually, generally recommending a re-set every 3-5 years depending on group-specific and industry experience and events
- This assumption was last re-set for the 2008 valuation
- Buck reviewed recent plan experience, evaluated the potential impacts of healthcare legislation and ongoing industry trends, and updated long-term forecasts using the Society of Actuaries’ updated long-term trend model in setting the proposed rates
- Plan liability is weighted toward ages 65 and greater based on plan enrollment and the proportion of time participants are in the plan while Medicare eligible. Thus, Medicare-based cost trends have more influence on valuation results.
- Disparities in medical care cost trends between non-Medicare and Medicare-eligible participants indicate a need for distinct healthcare cost trend assumptions.
- Applies to all plans: PERS/TRS/JRS – defined benefit and PERS/TRS DCR plan

The table below shows the rate used to project the cost from the shown fiscal year to the next fiscal year. For example, 6.4% is applied to the FY12 medical claims cost to get the FY13 medical claims cost.

Fiscal Year	Current Medical Trend	Current Rx Trend	Pre-Medicare Medical Trend Proposed	Medicare Medical Trend Proposed	Proposed Rx Trend	Estimated Aggregate Impact to Valuation Results (APBO)
2012	6.4%	7.1%	NA	NA	NA	2.7%
2013	5.9%	5.9%	9.01%	6.48%	6.38%	
2014	5.9%	5.9%	8.75%	6.41%	6.30%	
2015	5.9%	5.9%	8.51%	6.34%	6.23%	
2016	5.9%	5.9%	8.03%	6.26%	6.15%	
2017	5.9%	5.9%	7.54%	6.19%	6.08%	
2018	5.9%	5.9%	6.96%	6.12%	6.00%	
2025	5.8%	5.8%	5.96%	5.95%	5.80%	
2050	5.7%	5.7%	5.00%	5.00%	5.00%	
2100	5.1%	5.1%	4.50%	4.50%	4.50%	

Retiree Healthcare Cost Trend Rates – continued

Comparison of composite medical trend rate assumptions:

Fiscal Year	Current Medical Trend	Weighted Average Medical Trend Proposed *
2012	6.4%	NA
2013	5.9%	7.29%
2014	5.9%	7.16%
2015	5.9%	7.03%
2016	5.9%	6.83%
2017	5.9%	6.62%
2018	5.9%	6.39%
2025	5.8%	5.95%
2050	5.7%	5.00%
2100	5.1%	4.50%

*Based upon proportion of liability that is Pre-Medicare vs. Medicare

Impact to Normal Cost Rates:

Group	Impact to Normal Cost Rate
PERS	0.12%
TRS	0.06%
PERS – DCR	0.01%
TRS - DCR	0.01%

DCR Plan Factors and Participation Assumptions

- Plan adjustment from current defined benefit medical plans to a lower initial relative value
 - These values were reduced to reflect recent plan design discussions and anticipated reduced costs due to deeper network discounts over time and higher, plan design-driven network utilization
 - Medical was 94.1% of the defined benefit plan value, recommended relative value is 88.1%
 - Pharmacy was 99.3% of the defined benefit plan value, recommended relative value is 92.9%
- Participation based upon age and service at decrement
 - These rates were reduced to reflect the potential for relocation and election of alternatives in the individual marketplace
 - This assumption was enhanced to reflect that participants may become retirement eligible prior to Medicare eligibility and choose to participate in the plan paying full cost. Our recommended assumption now varies depending on time from assumed retirement to Medicare eligibility (i.e. the duration that future retirees will have to pay full plan cost and thus potentially drop DCR coverage in favor of exchange-based coverage)
- Benefit value adjustment for increasing member cost-sharing features
 - This assumption adjusts plan value to anticipate the impact of sharing cost trend increases between the plan and the participant
 - Previously, our plan adjustment factors resulted in a majority of cost increases shifting to participants
 - We updated this assumption to reflect the plan absorbing cost increases closer to long-term healthcare cost increases.
 - Annual plan value offset was (4.8%), recommended value is now (0.2%)
- Applies to PERS/TRS DCR plans only

Group	Impact to Normal Cost Rate
PERS – DCR	0.90%
TRS - DCR	1.19%

Mr. Jim Puckett
Mr. Mike Barnhill
February 7, 2013
Page 5

Please let us know if you have any questions regarding the retiree healthcare rate recommendations.

Sincerely,



David H. Slisinsky, FCA, ASA, EA, MAAA
Principal and Consulting Actuary



Melissa Bissett, FSA, MAAA
Senior Consultant

/kr

cc: Ms. Monica DeGraff, Buck Consultants
Mr. Christopher Hulla, Buck Consultants
Mr. Daniel Levin, Buck Consultants

DRAFT



State of Alaska Retirement Systems

*Actuarial Presentation to the Alaska
Retirement Management Board*

April 18, 2013

Agenda

- Changes Since Last Year
- June 30, 2012 Actuarial Valuation Results
 - PERS DB
 - TRS DB
 - DCR PERS
 - DCR TRS
- State Assistance under SB125
- 30-Year Projections for PERS and TRS
- Questions

Changes Since Last Year

- No change in Benefit Provisions, except for DCR Healthcare Plan Design Study.
- No change in Actuarial Assumptions except for the healthcare changes listed below.
- Amortization Policy has changed from Level Percent of Payroll to Level Dollar Amount for the PERS DB Plan and TRS DB Plan.
- Proposing changes in Healthcare assumptions:
 - Revision to healthcare cost trend rates to more accurately reflect future experience.

Fiscal Year	Current Medical Trend	Weighted Average Medical Trend Proposed*
2012	6.4%	N/A
2013	5.9%	7.29%
2014	5.9%	7.16%
2015	5.9%	7.03%
2016	5.9%	6.83%
2017	5.9%	6.62%
2018	5.9%	6.39%
2025	5.8%	5.95%
2050	5.7%	5.00%
2100	5.1%	4.50%

*Based upon proportion of liability that is Pre-Medicare vs. Medicare.

Changes Since Last Year (continued)

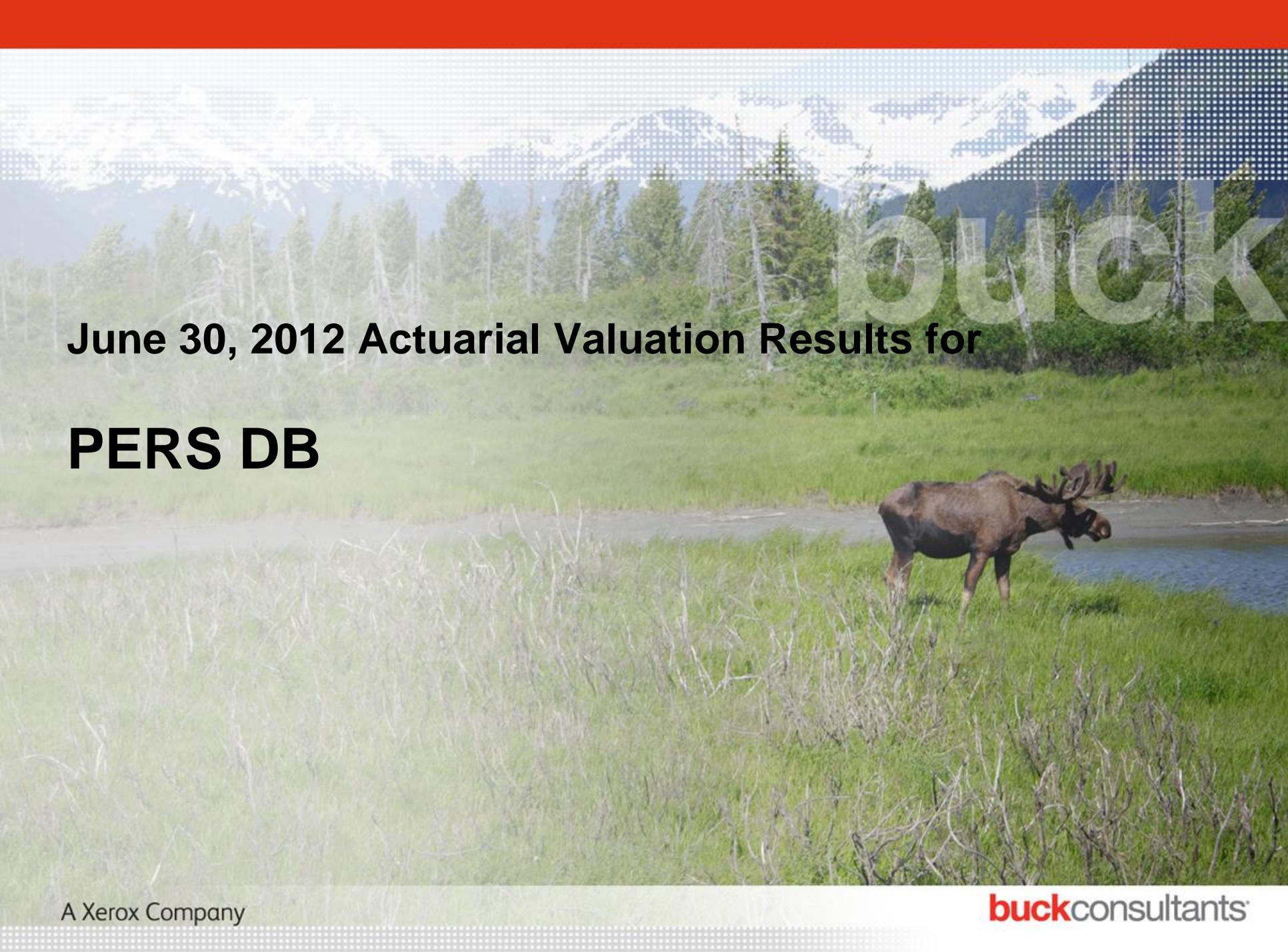
- Proposing changes in Healthcare assumptions (cont'd):
 - DCR healthcare plan design project has led to recommended assumption changes for PERS and TRS DCR:
 - Reduction in initial relative value of DCR vs. DB healthcare benefits
 - Medical was 94.1%, proposing 88.1%.
 - Pharmacy was 99.3%, proposing 92.9%.
 - Participation in DCR healthcare plan reduced to reflect potential for relocation and election of alternatives in the individual marketplace.
 - Benefit value adjustment changed to shift future medical cost trend to an equal sharing of future cost trend between retirees and the plan.

Impact of Changes on Actuarial Results

- Change in amortization method from level % of payroll to level dollar increased contribution rates for PERS and TRS DB.
 - PERS rate increased 7.21% of pay
 - TRS rate increased 13.07% of pay
- Investment return for FY12 was 0.2%, or 7.8% less than the assumed rate of 8.0%. When smoothed with prior gains and losses, the return on actuarial asset value was about 1%, creating an asset loss for the year that increased contribution rates for PERS and TRS DB.
 - PERS rate increased 3.11% of pay
 - TRS rate increased 4.18% of pay

Impact of Changes on Actuarial Results (continued)

- Significant gains experienced in healthcare plans due to lower than expected claims costs. Lower per capita claims costs used to project healthcare costs is producing 6% reduction to healthcare liabilities.
 - PERS rate decreased 1.74% of pay
 - TRS rate decreased 1.73% of pay
- New proposed assumptions for DCR healthcare plan increased contribution rates. Shifting to equal sharing of future medical cost trend represents most of the increased cost.
 - PERS-DCR rate increased 1.18% of pay
 - TRS-DCR rate increased 1.58% of pay



June 30, 2012 Actuarial Valuation Results for

PERS DB

Development of Actuarial Value of Assets PERS DB (\$ in millions)

Fiscal Year	Rate of Return	Asset Gain/ (Loss)	Recognition of Gain/(Loss)				
			FY12	FY13	FY14	FY15	FY16
FY08	(3.1)%	\$ (1,250.1)	\$ (250.0)	\$ 0	\$ 0	\$ 0	\$ 0
FY09	(20.5)%	\$ (3,081.8)	\$ (616.4)	\$ (616.4)	\$ 0	\$ 0	\$ 0
FY10	10.2%	\$ 167.6	\$ 33.5	\$ 33.5	\$ 33.5	\$ 0	\$ 0
FY11	20.4%	\$ 1,196.3	\$ 239.3	\$ 239.3	\$ 239.3	\$ 239.3	\$ 0
FY12	0.2%	\$ (888.0)	\$ (177.6)	\$ (177.6)	\$ (177.6)	\$ (177.6)	\$ (177.6)
Total	0.5%	\$ (3,856.0)	\$ (771.2)	\$ (521.2)	\$ 95.2	\$ 61.7	\$ (177.6)

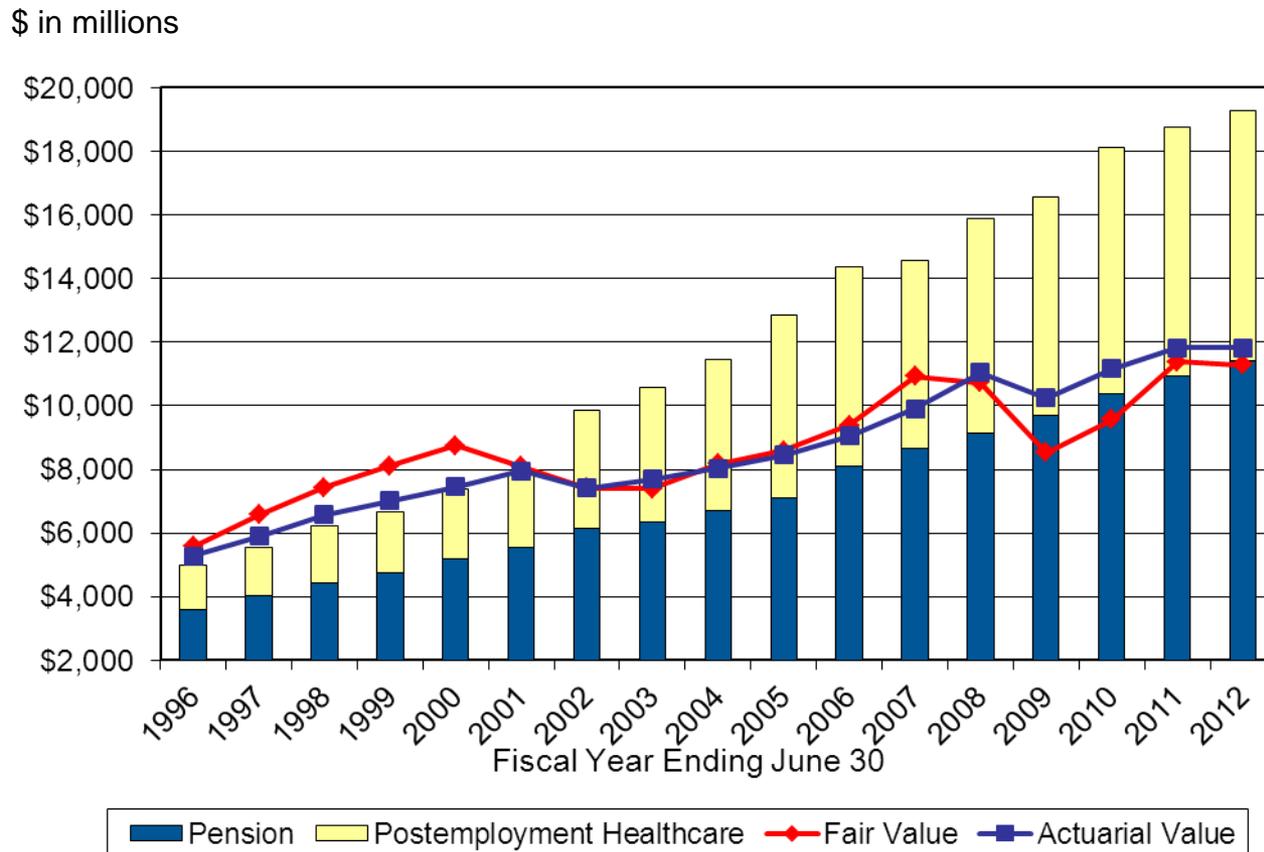
As of June 30, 2012

a. Fair Value of Assets	\$ 11,290.1	\$ (541.9)
b. Future Deferred Gain/(Loss)	<u>(541.9)</u>	
c. Actuarial Value of Assets (a.-b.)	\$ 11,832.0	
d. Ratio AVA/FVA	104.8%	

Asset Smoothing and Accrued Liability for Public Employees' Retirement System

Pension and Postemployment Healthcare

1996 – 2012



Public Employees' Retirement System

Peace Officer/Firefighter and Others Combined

Pension and Postemployment Healthcare

Actuarial Contribution Under Entry Age Actuarial Cost Method (\$ in millions)

Funding	June 30, 2012			June 30, 2011
	Pension	Postemployment Healthcare	Total	Total
1. Actuarial Accrued Liability	\$ 11,429	\$ 7,863	\$ 19,292	\$ 18,741
2. Actuarial Value of Assets	6,530	5,302	11,832	11,814
3. Unfunded Actuarial Accrued Liability	\$ 4,899	\$ 2,561	\$ 7,460	\$ 6,927
4. Funded Ratio	57.1%	67.4%	61.3%	63.0%
5. Normal Cost Contribution				
• Total Normal Cost	\$ 167	\$ 95	\$ 262	\$ 289
• Member Contribution	(110)	0	(110)	(113)
• Employer Normal Cost	\$ 57	\$ 95	\$ 152	\$ 176
• % of Total Pay	2.57%	4.25%	6.82%	8.12%
6. Past Service Cost				
• Amortization of Unfunded 25 Years	\$ 464	\$ 278	\$ 742	\$ 527
• % of Total pay	20.67%	12.36%	33.03%	24.19%
7. Employer/State Contribution for FY14				
• Amount	\$ 521	\$ 373	\$ 894	\$ 703
• % of Total Pay	23.24%	16.61%	39.85%	32.31%*

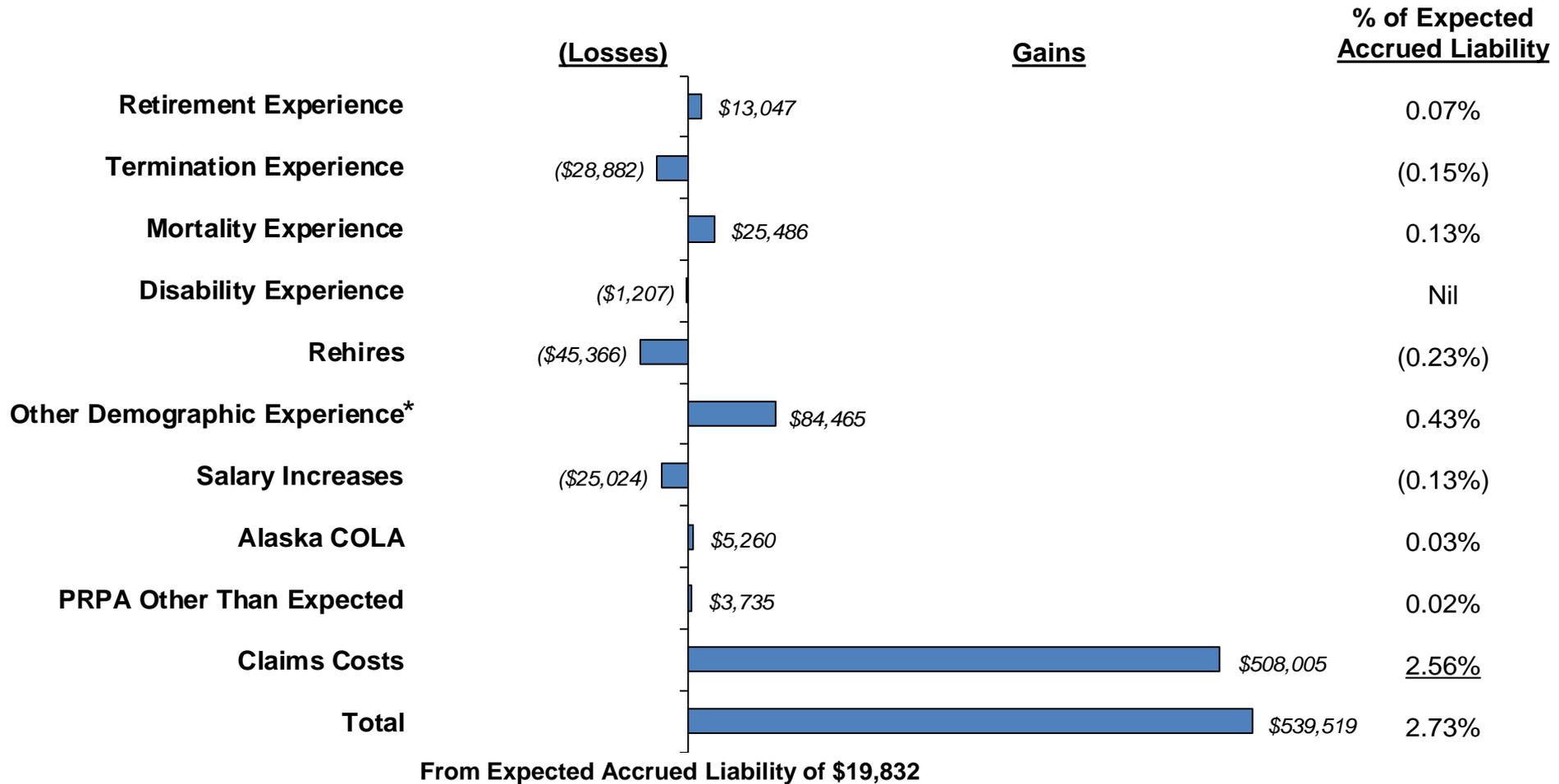
Total Pay is expected to be \$2,246 million for FY13, was \$2,176 for FY12.

*Based on level percent of payroll amortization. The Employer/State contribution rate for FY14 under level dollar amortization method is 39.27%

Public Employees' Retirement System

Gain/(Loss) on Total Accrued Liability

(\$ in thousands)



*Programming and data changes.

Public Employees' Retirement System

Changes in Unfunded Liability Since Last Year

(\$ in millions)

Development of Change in Unfunded Liability during FY12		
1. 2011 Unfunded Liability		\$6,927
a. Interest on unfunded liability	\$554	
b. Normal cost	289	
c. Employee contributions	(113)	
d. Employer contributions	(406)	
e. State relief under SB 125	(243)	
f. Medicare Part D subsidy	(32)	
g. Interest on b., c., d., e., and f.	<u>(8)</u>	
h. Expected change in unfunded liability during FY12		41
2. Expected 2012 Unfunded Liability		\$6,968
a. Liability (gains)	\$(540)	
b. Assets losses	805	
c. Change in healthcare assumptions	<u>227</u>	
d. Other changes in unfunded liability during FY12		492
3. Actual 2012 Unfunded Liability		\$7,460

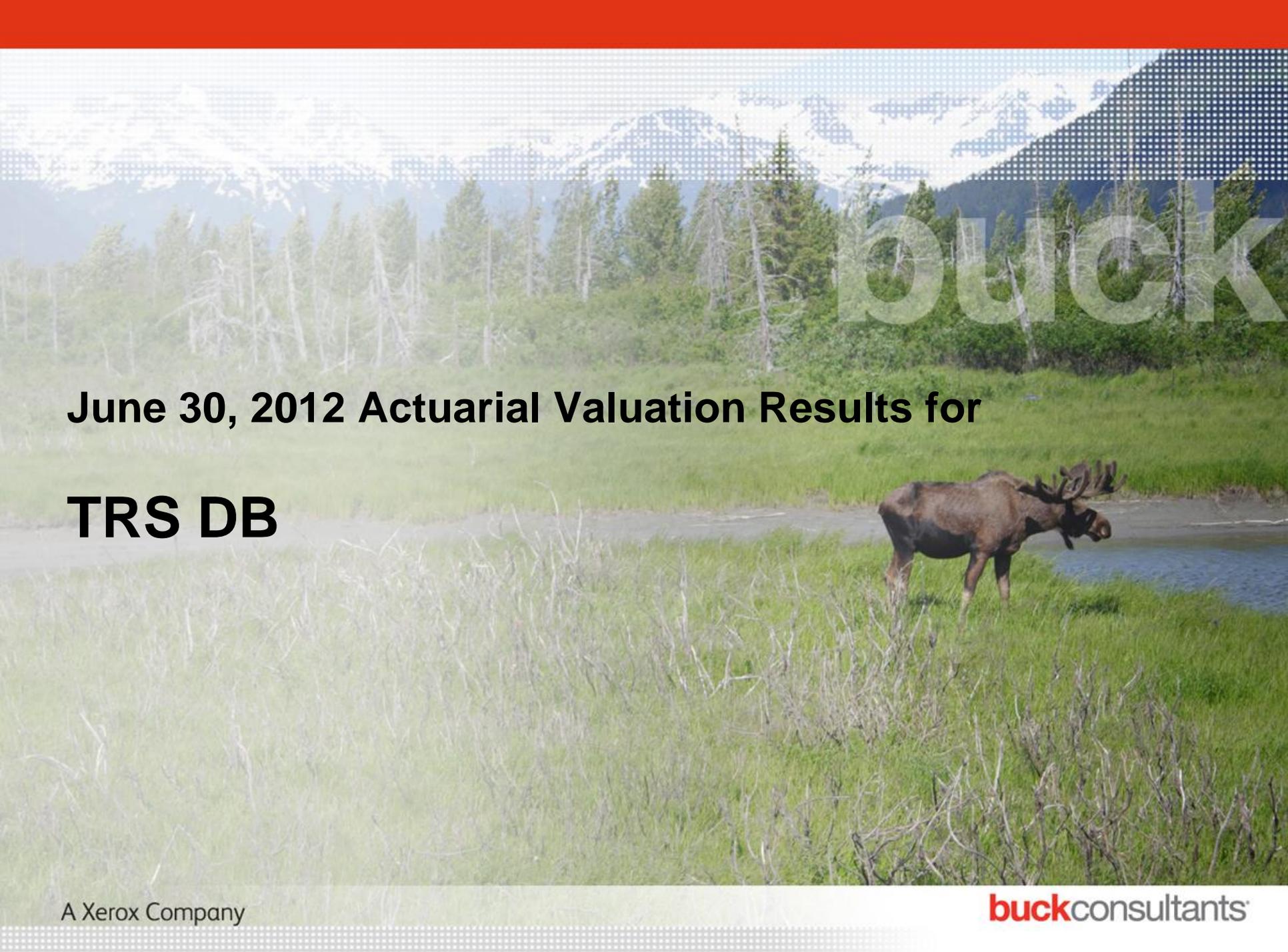
Public Employees' Retirement System

Peace Officer/Firefighter and Others Combined

Change in Total Employer/State Contribution Rate

	Pension	Healthcare	Total
1. Last year's total Employer/State contribution rate	16.47%	15.84%	32.31%
2. Change due to:			
• Change in amortization method	4.89%	2.32%	7.21%
• New healthcare assumptions	N/A	0.75%	0.75%
• Effect of two-year delay in the contribution rate	0.25%	(0.04%)	0.21%
• Asset experience	2.40%	0.71%	3.11%
• Salary increases	0.23%	N/A	0.23%
• Demographic experience and other*	(1.00%)	(1.23%)	(2.23%)
• Claims costs	N/A	(1.74%)	(1.74%)
• Total change	6.77%	0.77%	7.54%
3. Total Employer/State contribution rate this year	23.24%	16.61%	39.85%

*Includes data and programming changes.



June 30, 2012 Actuarial Valuation Results for

TRS DB

Development of Actuarial Value of Assets

TRS DB (\$ in millions)

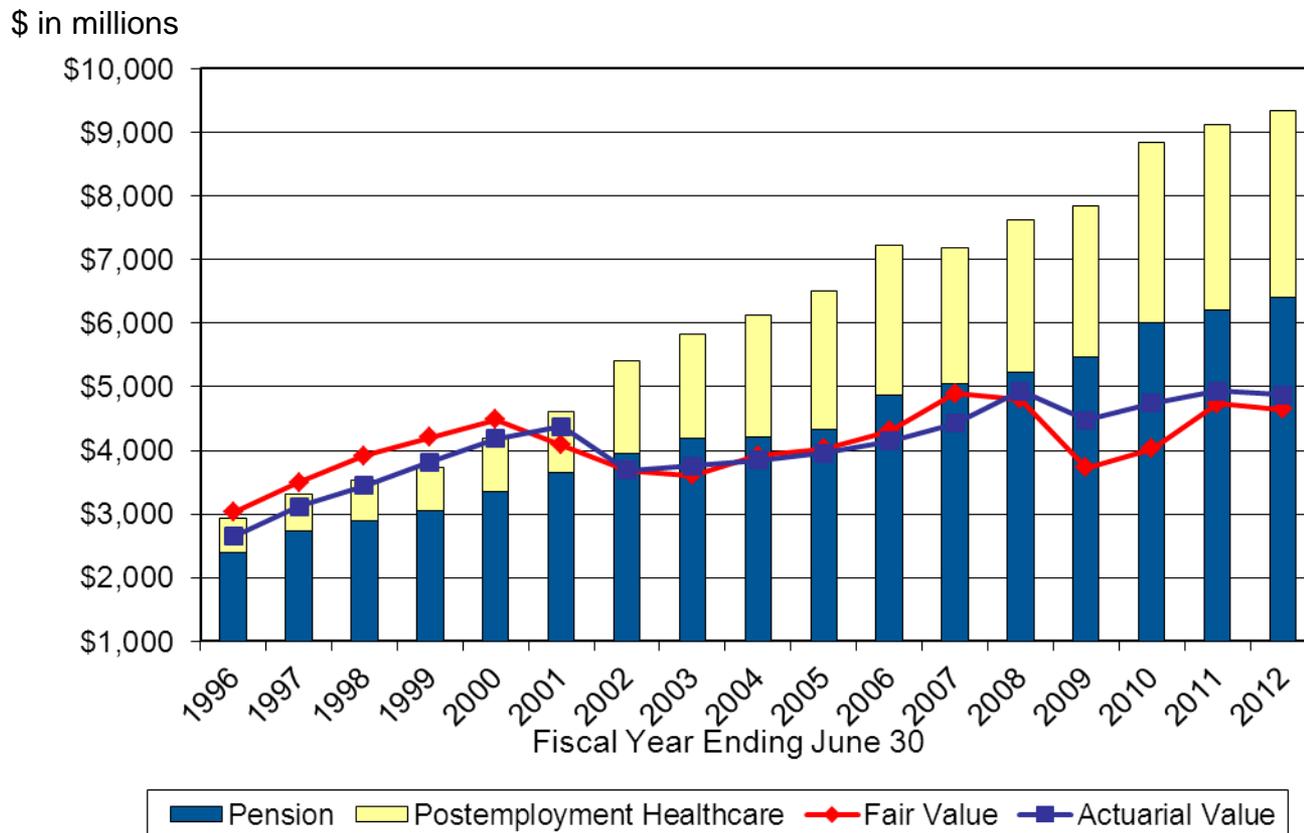
Fiscal Year	Rate of Return	Asset Gain/ (Loss)	Recognition of Gain/(Loss)				
			FY12	FY13	FY14	FY15	FY16
FY08	(3.0)%	\$ (554.1)	\$ (110.8)	\$ 0.0	\$ 0.0	\$ 0.0	\$ 0.0
FY09	(21.0)%	\$ (1,392.0)	\$ (278.4)	\$ (278.4)	\$ 0.0	\$ 0.0	\$ 0.0
FY10	10.6%	\$ 86.1	\$ 17.2	\$ 17.2	\$ 17.2	\$ 0.0	\$ 0.0
FY11	20.5%	\$ 513.6	\$ 102.7	\$ 102.7	\$ 102.7	\$ 102.7	\$ 0
FY12	0.2%	\$ (367.1)	\$ (73.4)	\$ (73.4)	\$ (73.4)	\$ (73.4)	\$ (73.4)
Total	0.5%	\$ (1,713.5)	\$ (342.7)	\$ (231.9)	\$ 46.5	\$ 29.3	\$ (73.4)

As of June 30, 2012

a. Fair Value of Assets	\$ 4,639.7	\$ (229.5)
b. Future Deferred Gain/(Loss)	<u>(229.5)</u>	
c. Actuarial Value of Assets (a.-b.)	\$ 4,869.2	
d. Ratio AVA/FVA	105.0%	

Asset Smoothing and Accrued Liability for Teachers' Retirement System

Pension and Postemployment Healthcare
1996 – 2012



Teachers' Retirement System

Pension and Postemployment Healthcare

Actuarial Contribution Under Entry Age Actuarial Cost Method (\$ in millions)

Funding	June 30, 2012			June 30, 2011
	Pension	Postemployment Healthcare	Total	Total
1. Actuarial Accrued Liability	\$ 6,400	\$ 2,946	\$ 9,346	\$ 9,129
2. Actuarial Value of Assets	3,195	1,674	4,869	4,938
3. Unfunded Actuarial Accrued Liability	\$ 3,205	\$ 1,272	\$ 4,477	\$ 4,191
4. Funded Ratio	49.9%	56.8%	52.1%	54.1%
5. Normal Cost Contribution				
• Total Normal Cost	\$ 69	\$ 27	\$ 96	\$ 98
• Member Contribution	(48)	0	(48)	(50)
• Employer Normal Cost	\$ 21	\$ 27	\$ 48	\$ 48
• % of Total Pay	2.81%	3.59%	6.40%	6.59%
6. Past Service Cost				
• Amortization of Unfunded 25 Years	\$ 311	\$ 135	\$ 446	\$ 319
• % of Total pay	41.74%	18.17%	59.91%	43.51%
7. Employer/State Contribution for FY14				
• Amount	\$ 332	\$ 162	\$ 494	\$ 367
• % of Total Pay	44.55%	21.76%	66.31%	50.10%*

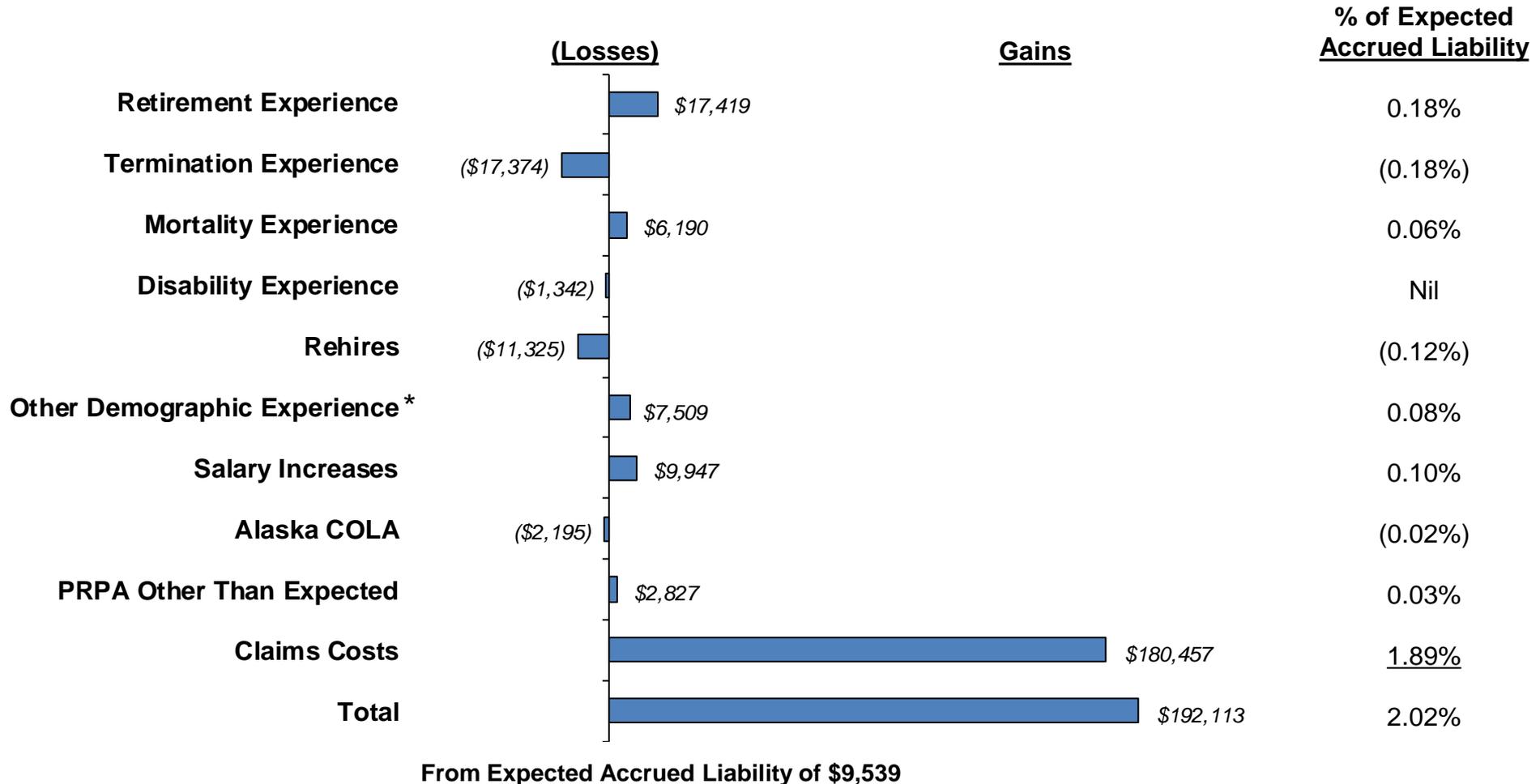
Total Pay is expected to be \$744 million for FY13, was \$732 for FY12.

*Based on level percent of payroll amortization. The Employer/State contribution rate for FY14 under level dollar amortization method is 62.65%

Teachers' Retirement System

Gain/(Loss) on Total Accrued Liability

(\$ in thousands)



*Programming and data changes.

Teachers' Retirement System

Changes in Unfunded Liability Since Last Year

(\$ in millions)

Development of Change in Unfunded Liability during FY12		
1. 2011 Unfunded Liability		\$4,191
a. Interest on unfunded liability	\$335	
b. Normal cost	98	
c. Employee contributions	(52)	
d. Employer contributions	(74)	
e. State relief under SB 125	(235)	
f. Medicare Part D subsidy	(13)	
g. Interest on b., c., d., e., and f.	<u>(7)</u>	
h. Expected change in unfunded liability during FY12		52
2. Expected 2012 Unfunded Liability		\$4,243
a. Liability (gains)	\$(192)	
b. Assets losses	359	
c. Change in healthcare assumptions	<u>67</u>	
d. Other changes in unfunded liability during FY12		234
3. Actual 2012 Unfunded Liability		\$4,477

Teachers' Retirement System

Change in Total Employer/State Contribution Rate

	Pension	Healthcare	Total
1. Last year's total Employer/State contribution rate	31.40%	18.70%	50.10%
2. Change due to:			
• Change in amortization method	9.52%	3.55%	13.07%
• New healthcare assumptions	N/A	0.63%	0.63%
• Effect of two-year delay in the contribution rate	0.52%	0.19%	0.71%
• Asset experience	3.47%	0.71%	4.18%
• Salary increases	0.00%	N/A	0.00%
• Demographic experience and other*	(0.36%)	(0.29%)	(0.65%)
• Claims costs	N/A	(1.73%)	(1.73%)
• Total change	13.15%	3.06%	16.21%
3. Total Employer/State contribution rate this year	44.55%	21.76%	66.31%

*Includes data and programming changes.



**June 30, 2012 Actuarial Valuation Results for
PERS & TRS DCR**

Public Employees' Retirement System Defined Contribution Retirement Plan Peace Officer/Firefighter and Others Combined Occupational Death and Disability and Retiree Medical

Actuarial Contribution Under Entry Age Actuarial Cost Method (\$ in thousands)

Funding	June 30, 2012			June 30, 2011
	Occupational Death and Disability	Retiree Medical	Total	Total
1. Actuarial Accrued Liability	\$ 2,412	\$ 44,509	\$ 46,921	\$ 13,251
2. Actuarial Value of Assets	9,142	15,773	24,915	19,058
3. Unfunded Actuarial Accrued Liability	\$ (6,730)	\$ 28,736	\$ 22,006	\$ (5,807)
4. Funded Ratio	379.0%	35.4%	53.1%	143.8%
5. Annual Actuarial Contribution				
• Normal Cost	\$ 2,490	\$ 9,380	\$ 11,870	\$ 4,765
• Amortization of Unfunded Over 25 Years	(446)	1,798	1,352	(385)
• Total Contribution	\$ 2,044	\$ 11,178	\$ 13,222	\$ 4,380
• % of DCR Pay	0.30%	1.66%	1.96%	0.77%

Total DCR pay is expected to be \$675,976 for FY13, was \$564,434 for FY12.

Public Employees' Retirement System - DCR

Peace Officer/Firefighter and Others Combined

Change in Total Employer Contribution Rate

	Occupational Death & Disability	Retiree Medical	Total
1. Last year's total Employer contribution rate	0.29%	0.48%	0.77%
2. Change due to:			
• Effect of two-year delay in the contribution rate	nil	nil	nil
• Asset experience	nil	nil	nil
• Demographic experience and other*	0.01%	0.04%	0.05%
• New retiree medical assumptions	N/A	1.18%	1.18%
• Claims costs	N/A	(0.04%)	0.04%
• Total change	0.01%	1.18%	1.19%
3. Total Employer contribution rate this year	0.30%	1.66%	1.96%

*Includes data and programming changes.

Teachers' Retirement System

Defined Contribution Retirement Plan

Occupational Death and Disability and Retiree Medical

Actuarial Contribution Under Entry Age Actuarial Cost Method (\$ in thousands)

Funding	June 30, 2012			June 30, 2011
	Occupational Death and Disability	Retiree Medical	Total	Total
1. Actuarial Accrued Liability	\$ 63	\$ 16,811	\$ 16,874	\$ 3,858
2. Actuarial Value of Assets	2,348	6,937	9,285	7,566
3. Unfunded Actuarial Accrued Liability	\$ (2,285)	\$ 9,874	\$ 7,589	\$ (3,708)
4. Funded Ratio	3,727.0%	41.3%	55.0%	196.1%
5. Annual Actuarial Contribution				
• Normal Cost	\$ 95	\$ 3,256	\$ 3,351	\$ 947
• Amortization of Unfunded Over 25 Years	(95)	611	516	(185)
• Total Contribution	\$ 0	\$ 3,867	\$ 3,867	\$ 762
• % of DCR Pay	0.00%	2.04%	2.04%	0.47%

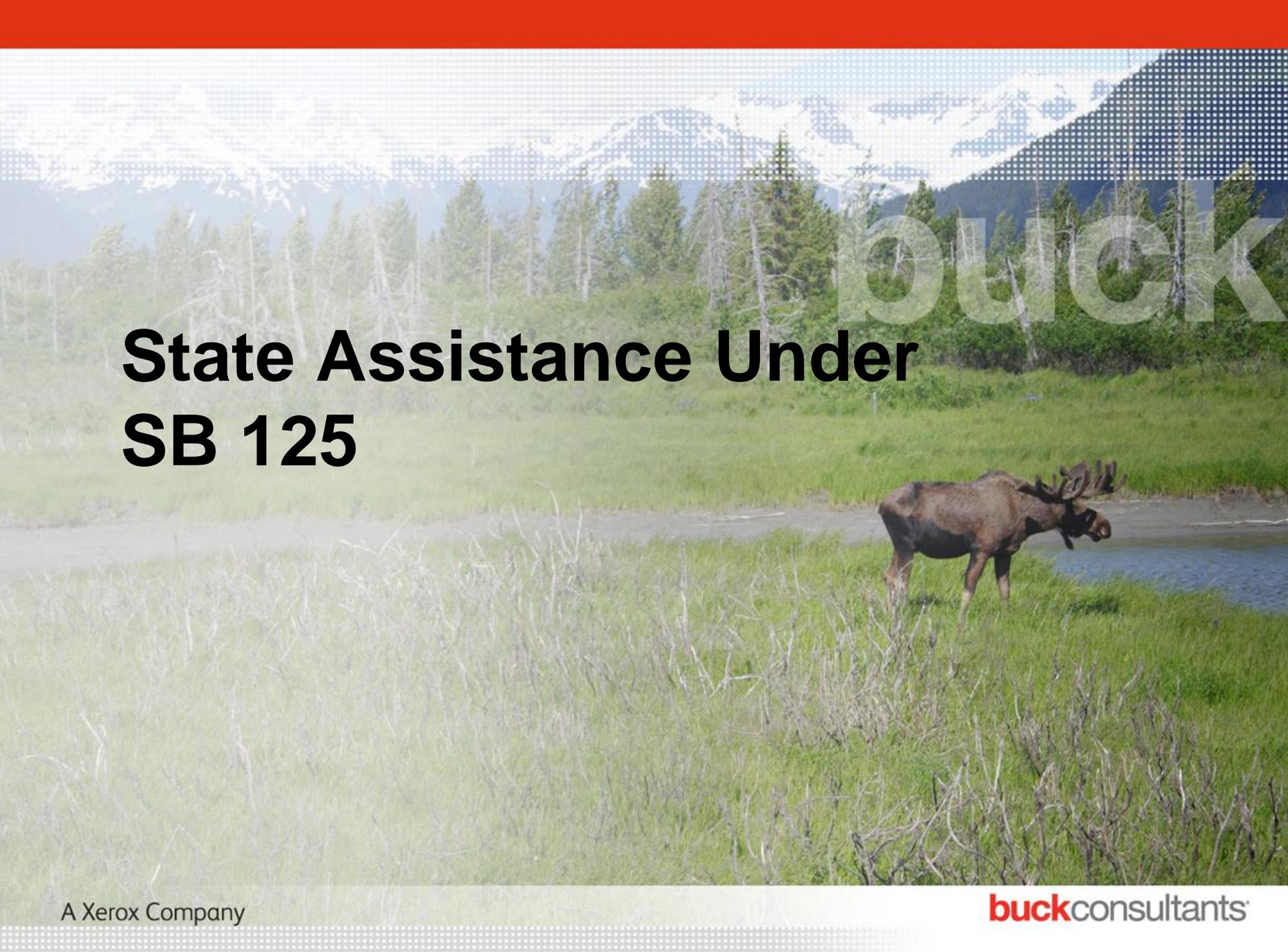
Total DCR pay is expected to be \$189,680 for FY13, was \$160,509 for FY12.

Teachers' Retirement System - DCR

Change in Total Employer Contribution Rate

	Occupational Death & Disability	Retiree Medical	Total
1. Last year's total Employer contribution rate	0.00%	0.47%	0.47%
2. Change due to:			
• Effect of two-year delay in the contribution rate	nil	nil	nil
• Asset experience	nil	nil	nil
• Demographic experience and other*	nil	0.03%	0.03%
• New retiree medical assumptions	N/A	1.58%	1.58%
• Claims costs	N/A	(0.04%)	(0.04%)
• Total change	0.00%	1.57%	1.57%
3. Total Employer contribution rate this year	0.00%	2.04%	2.04%

*Includes data and programming changes.



State Assistance Under SB 125

Contribution Background

- SB 125 capped the employer contribution rate based on Total Salary (DB plus DCR)
 - PERS rate = 22%
 - TRS rate = 12.56%
- SB 125 also provided for State assistance if the actuarial rate is above the capped rate for both the DB and DCR plan combined

Summary of Results

Employer Rates for DCR

PERS	Rate based on DCR Pay	Rate based on Total DB & DCR FY15 Pay
Retiree Medical	1.66%	0.69%
Occ D&D	0.30%	0.13%
HRA	3.00%	1.26%
DC Account	<u>5.00%</u>	<u>2.10%</u>
Total Employer Rate	9.96%	4.18%

TRS	Rate based on DCR Pay	Rate based on Total DB & DCR FY15 Pay
Retiree Medical	2.04%	0.75%
Occ D&D	0.00%	0.00%
HRA	3.00%	1.11%
DC Account	<u>7.00%</u>	<u>2.58%</u>
Total Employer Rate	12.04%	4.44%

Development of Additional State Contribution for FY15 – Level \$ Amortization Method (Current Method)

	PERS		TRS	
	Rate	Amount (in millions)	Rate	Amount (in millions)
Expected Payroll for FY15				
• DB		\$ 1,365.1		\$ 494.3
• DCR		992.6		289.1
• Total		\$ 2,357.7		\$ 783.4
Employer State Actuarial Contributions				
• Actuarial Contribution for DB Plan	39.85%	\$ 939.5	66.31%	\$ 519.5
• DCR Contribution	4.18%	98.6	4.44%	34.8
• Total Required Contribution	44.03%	\$ 1,038.1	70.75%	\$ 554.3
• Total Limited Employer Contribution	(22.00%)	(518.7)	(12.56%)	(98.4)
• Additional State Contribution for FY15	22.03%	\$ 519.4	58.19%	\$ 455.9

Total State Assistance = \$975.3 million
Represents increase of \$272.4 million from prior method

Development of Additional State Contribution for FY15 – Level % of Pay Amortization Method (Prior Method)

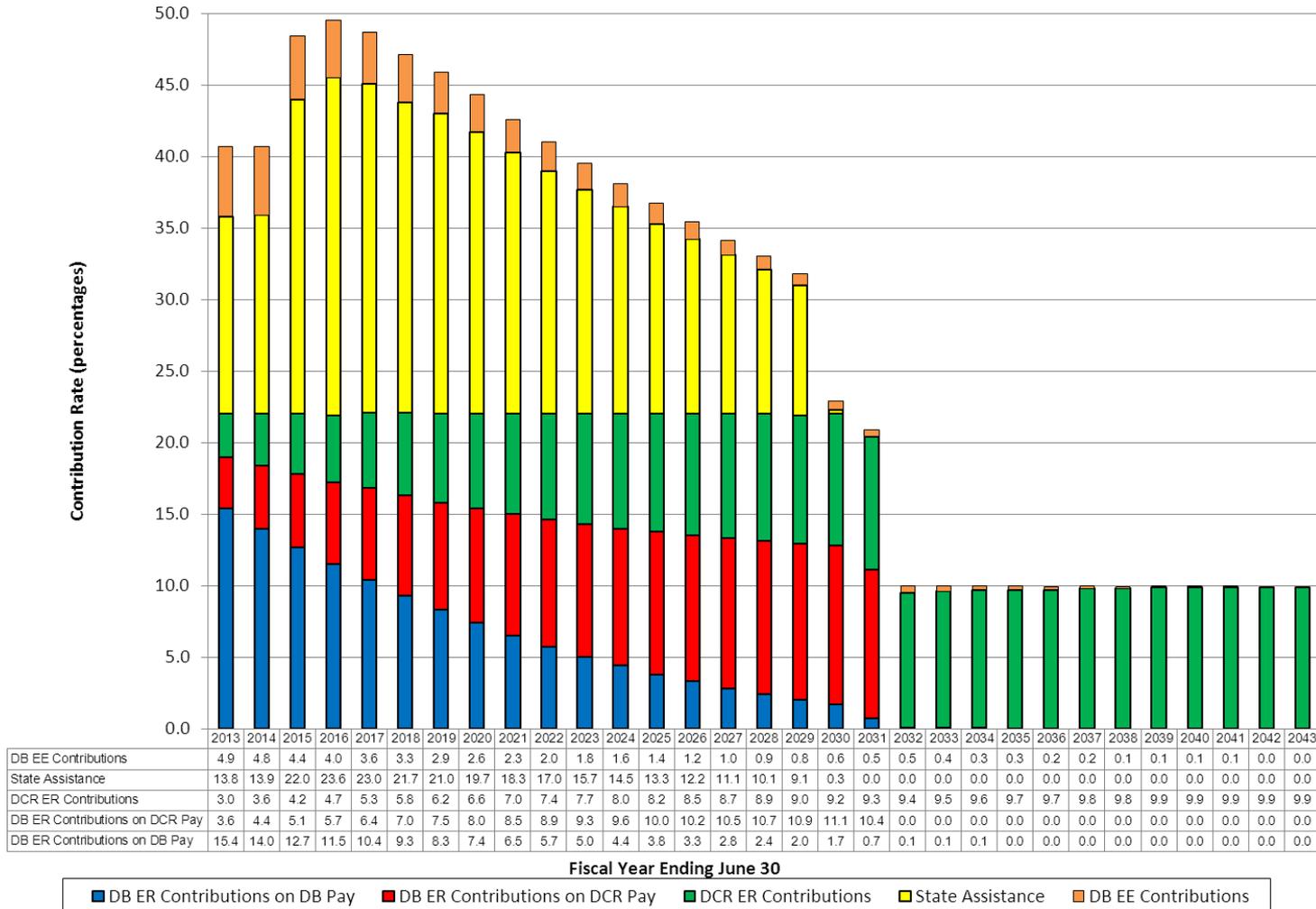
	PERS		TRS	
	Rate	Amount (in millions)	Rate	Amount (in millions)
Expected Payroll for FY15				
• DB		\$ 1,365.1		\$ 494.3
• DCR		992.6		289.1
• Total		\$ 2,357.7		\$ 783.4
Employer State Actuarial Contributions				
• Actuarial Contribution for DB Plan	32.64%	\$ 769.5	53.24%	\$ 417.1
• DCR Contribution	4.18%	98.6	4.44%	34.8
• Total Required Contribution	36.82%	\$ 868.1	57.68%	\$ 451.9
• Total Limited Employer Contribution	(22.00%)	(518.7)	(12.56%)	(98.4)
• Additional State Contribution for FY15	14.82%	\$ 349.4	45.12%	\$ 353.5

Total State Assistance = \$702.9 million

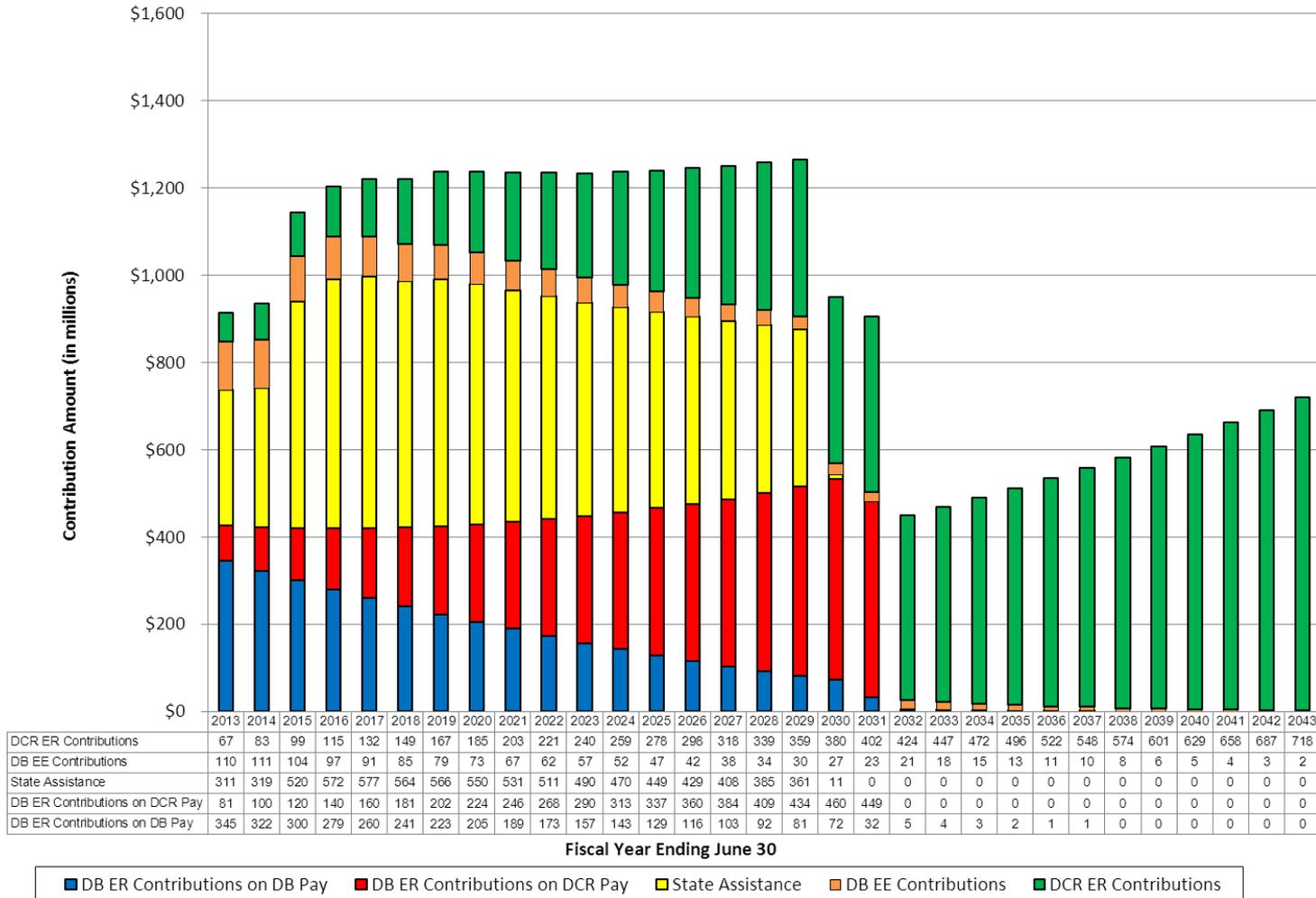


30-Year Projections for PERS and TRS

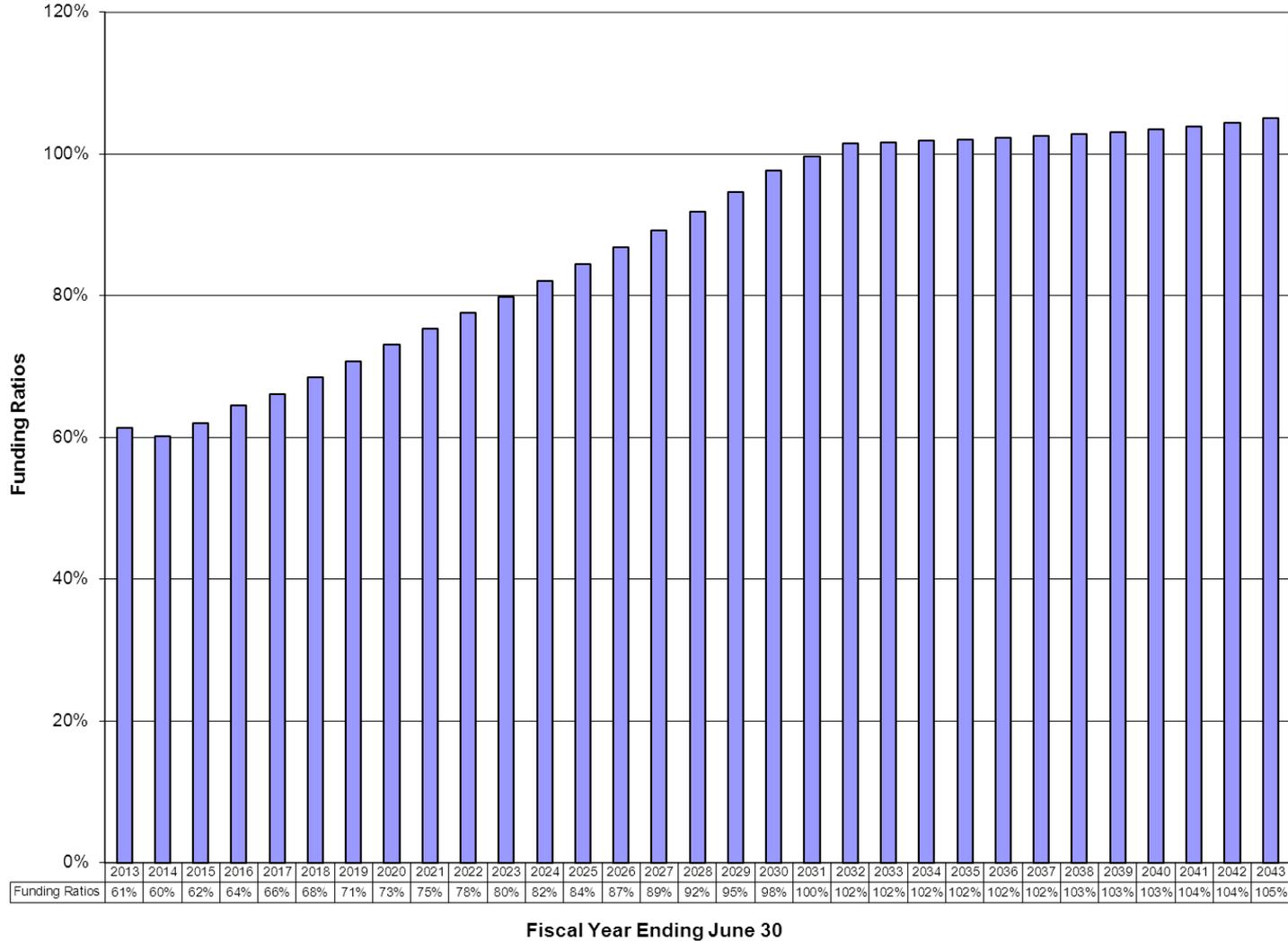
PERS Projected Contribution Rates – Level \$ Based on Total DB and DCR Payroll



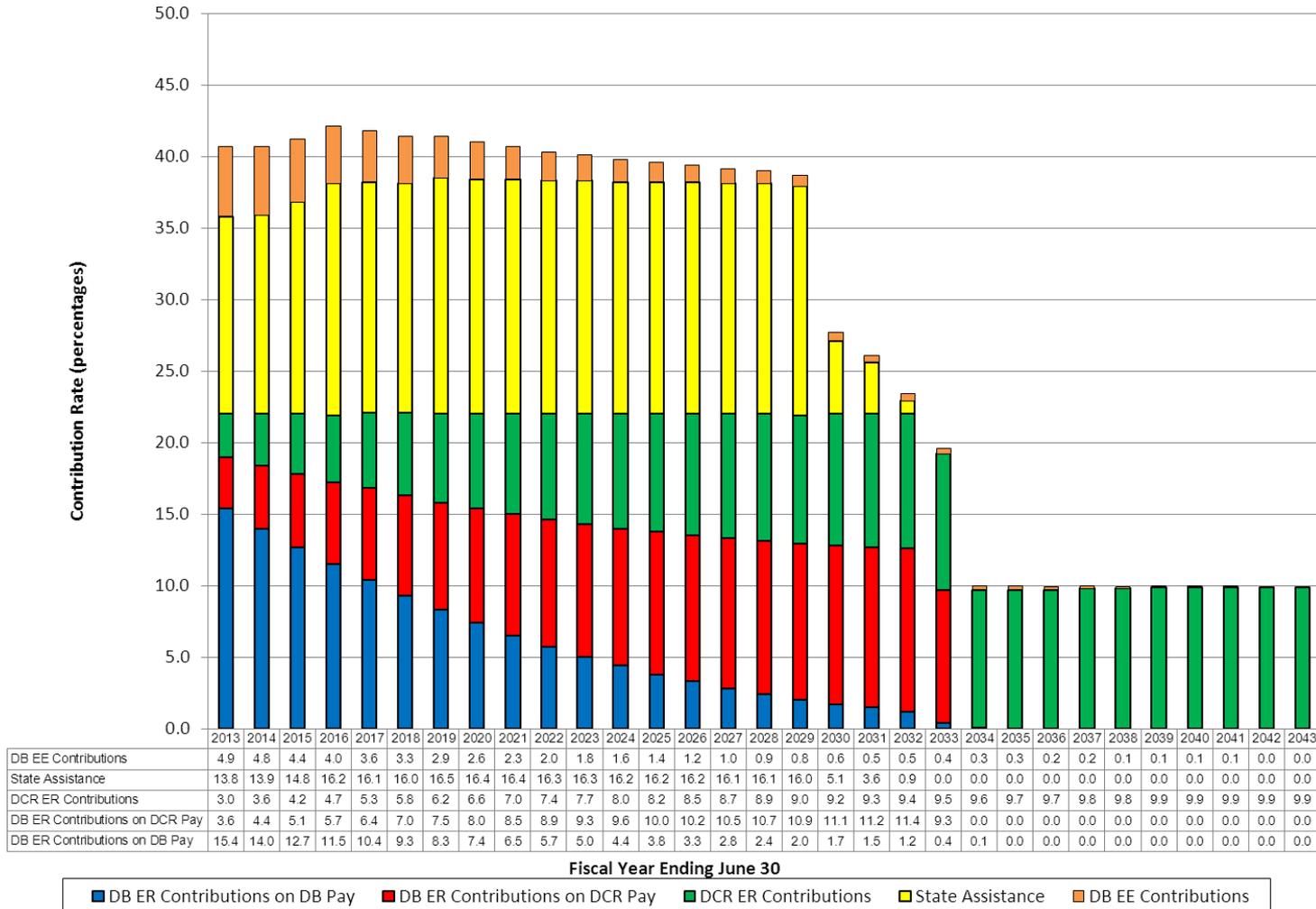
PERS Projected Contribution Amounts – Level \$



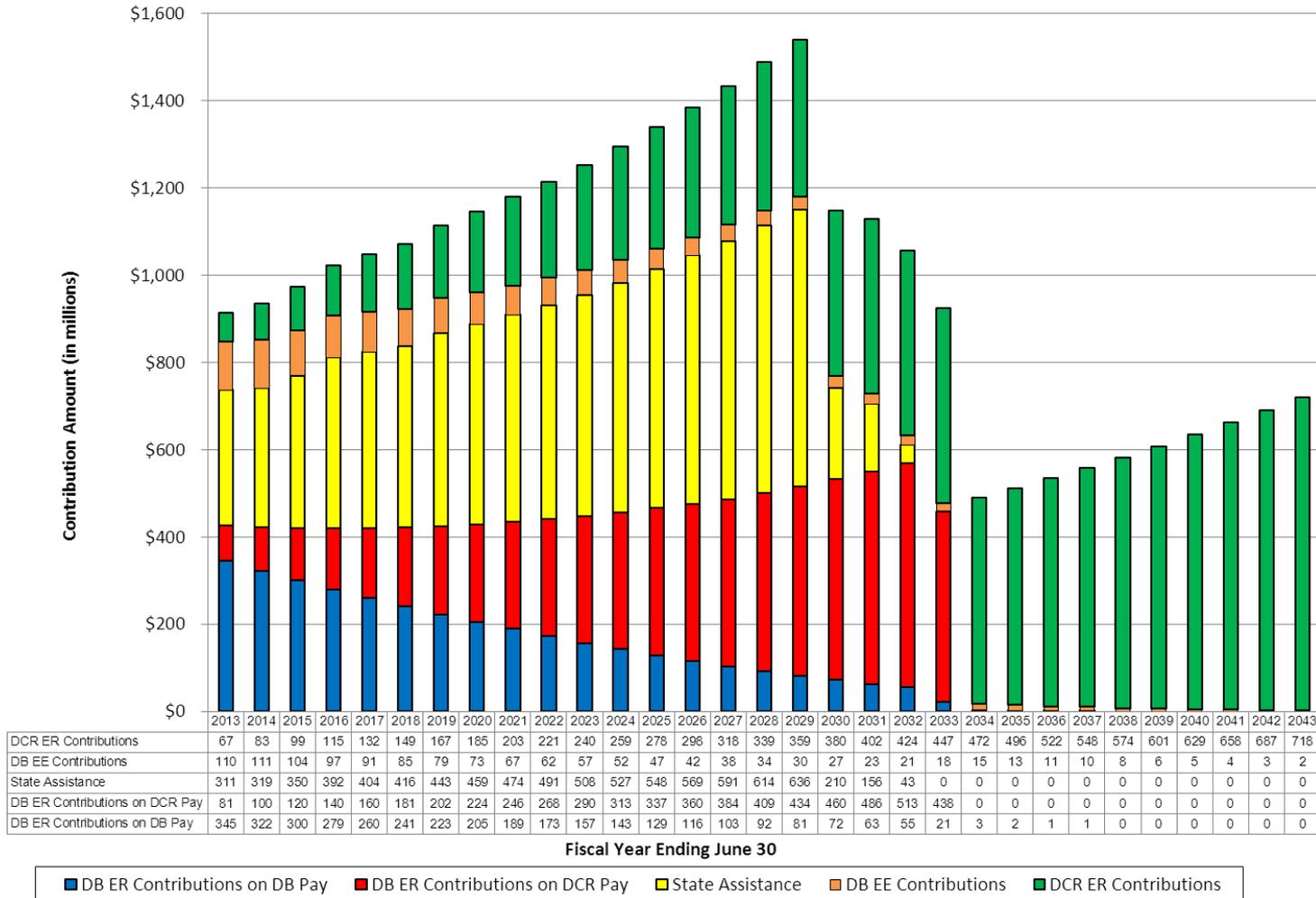
PERS Funding Ratio – Level \$



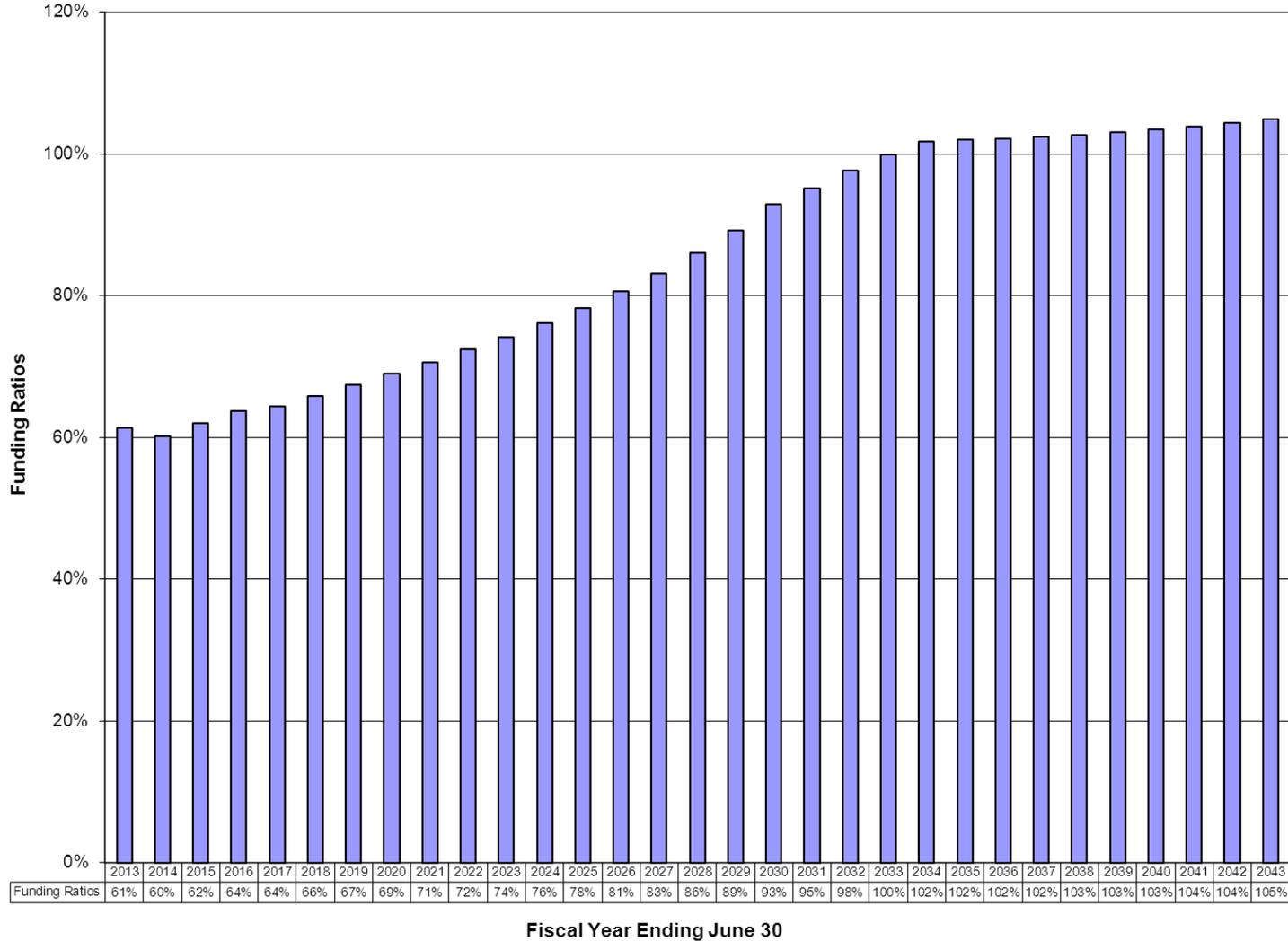
PERS Projected Contribution Rates – Level % of Pay Based on Total DB and DCR Payroll



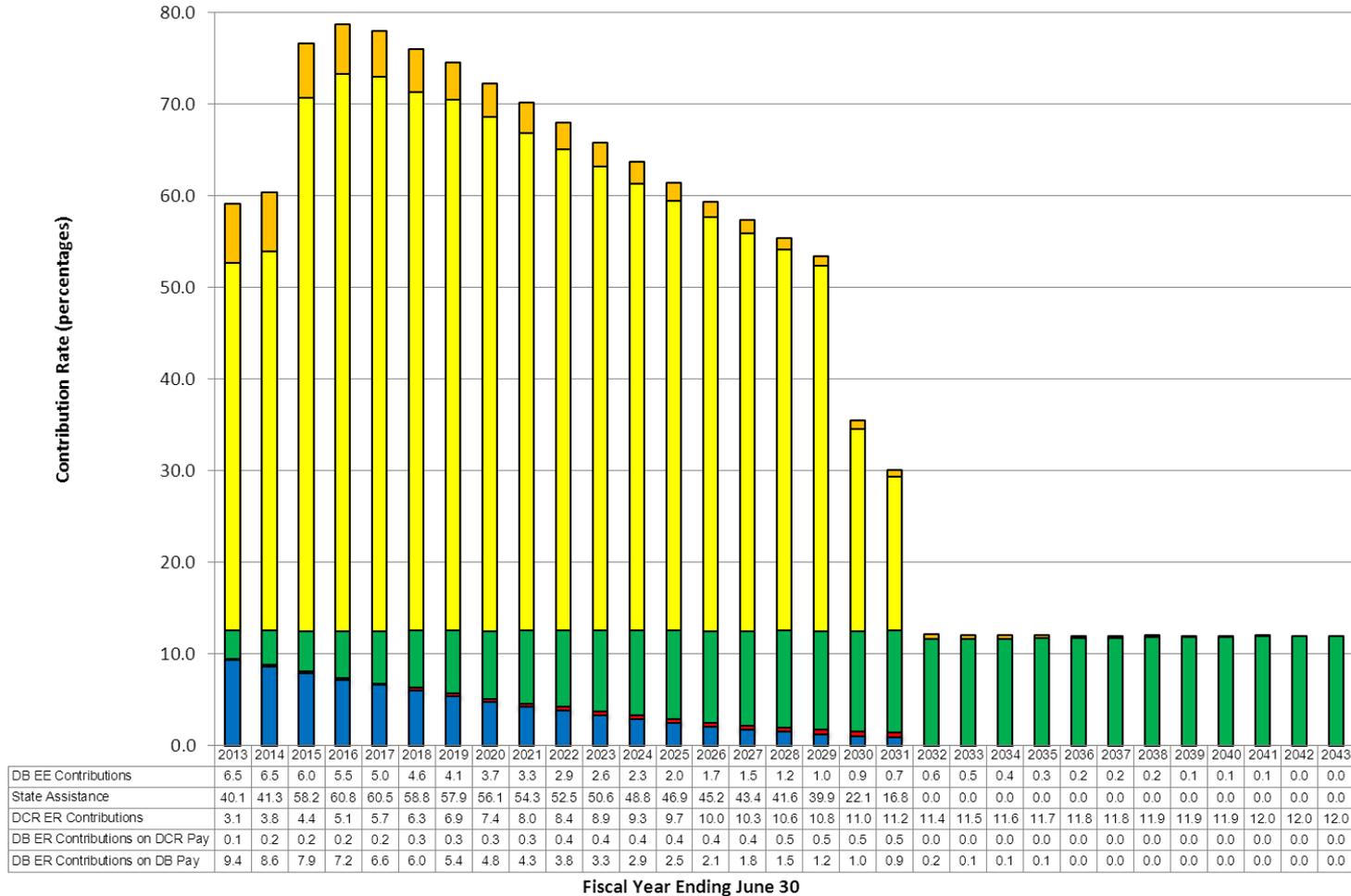
PERS Projected Contribution Amounts – Level % of Pay



PERS Funding Ratio – Level % of Pay



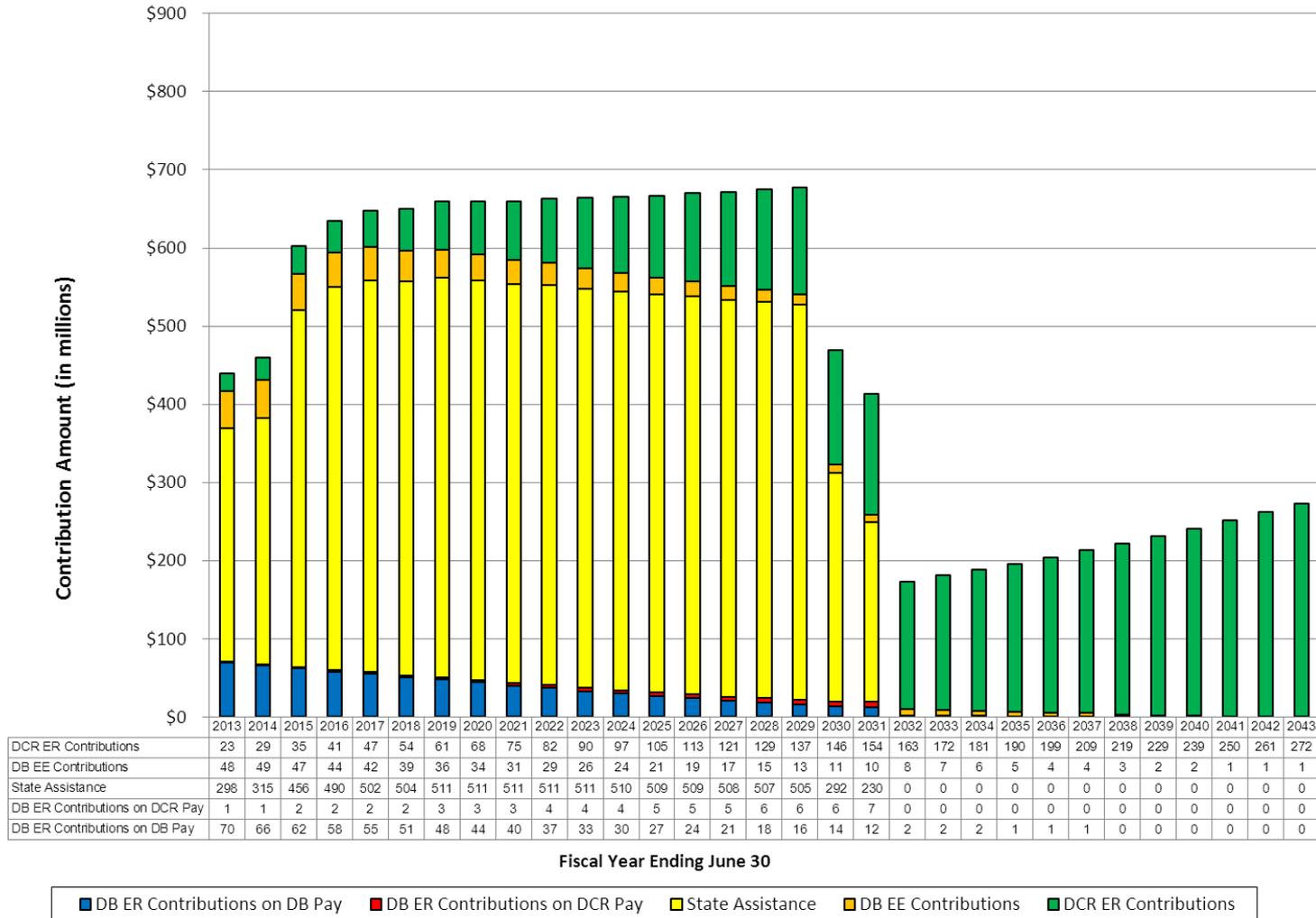
TRS Projected Contribution Rates – Level \$ Based on Total DB and DCR Payroll



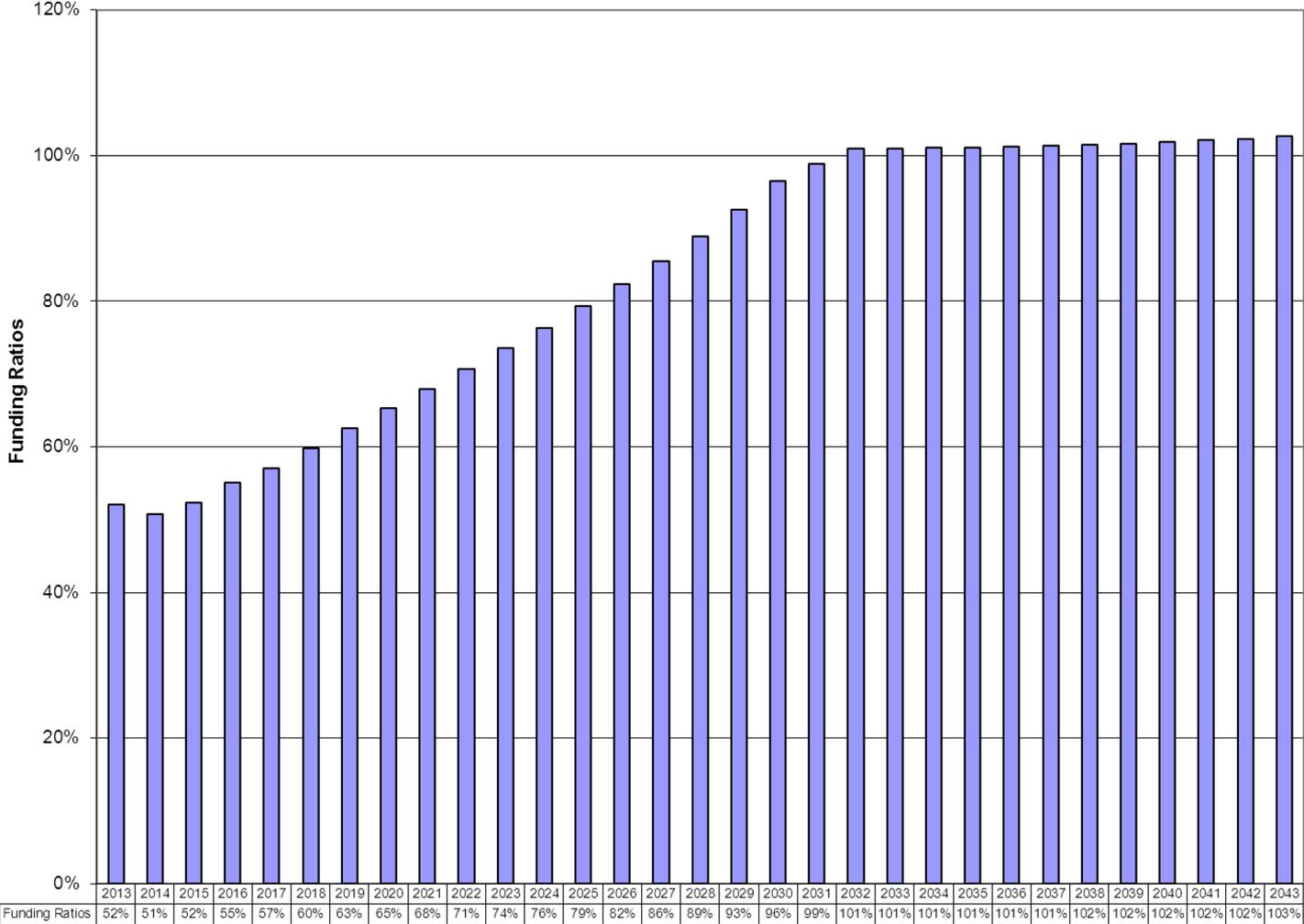
Fiscal Year Ending June 30

■ DB EE Contributions
 ■ State Assistance
 ■ DCR ER Contributions
 ■ DB ER Contributions on DCR Pay
 ■ DB ER Contributions on DB Pay

TRS Projected Contribution Amounts – Level \$

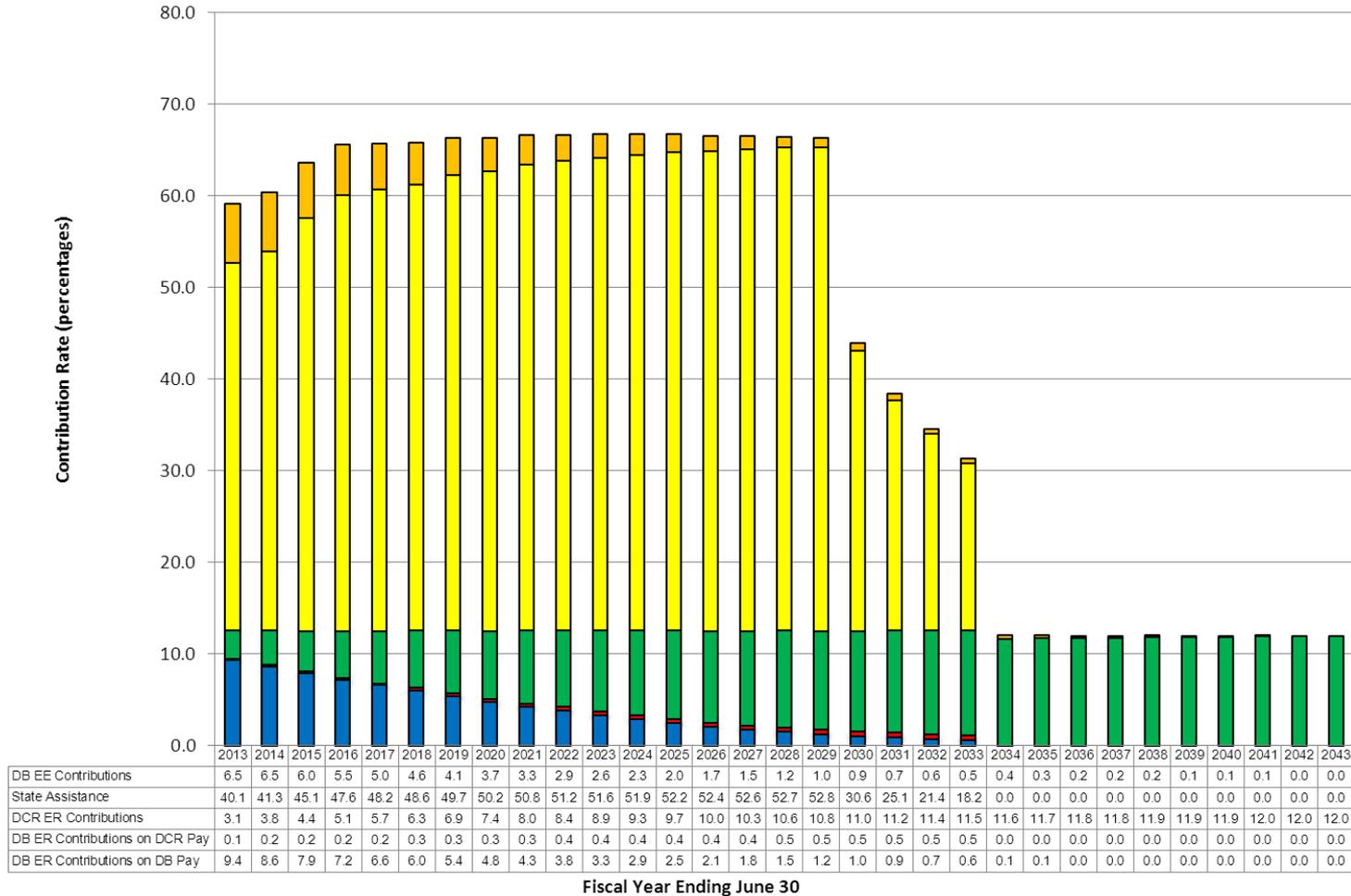


TRS Funding Ratio – Level \$



Fiscal Year Ending June 30

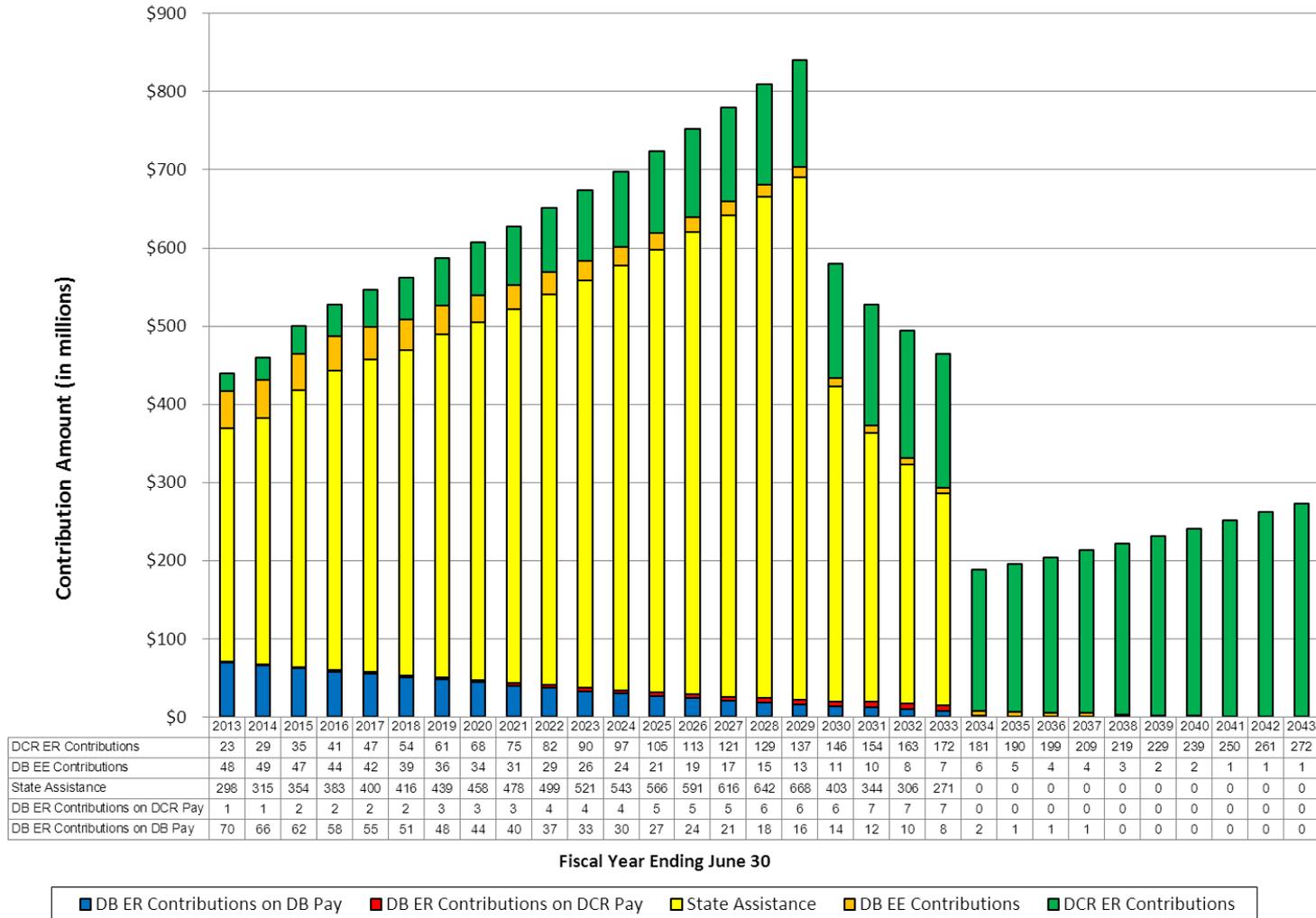
TRS Projected Contribution Rates – Level % of Pay Based on Total DB and DCR Payroll



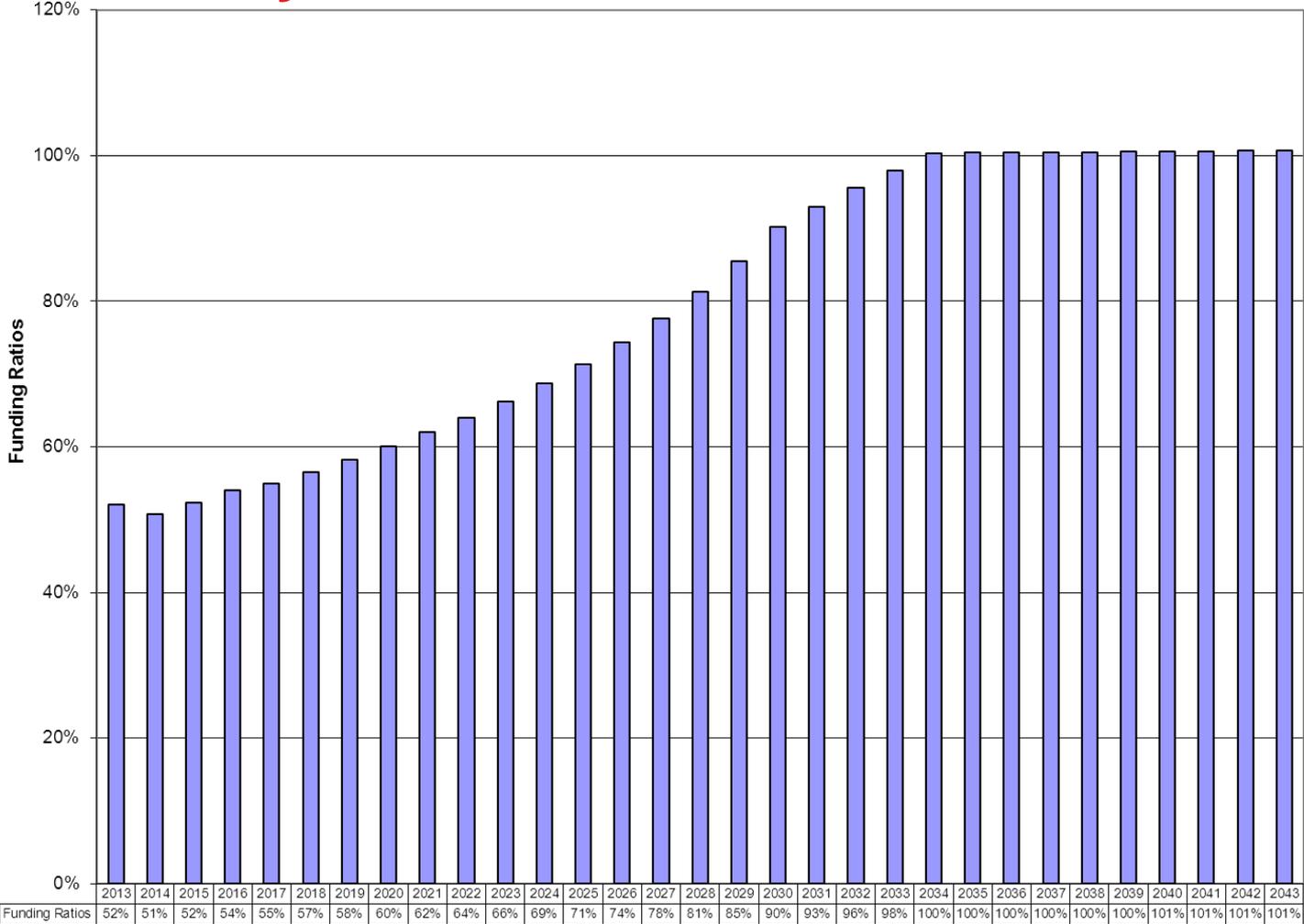
Fiscal Year Ending June 30

■ DB EE Contributions
 ■ State Assistance
 ■ DCR ER Contributions
 ■ DB ER Contributions on DCR Pay
 ■ DB ER Contributions on DB Pay

TRS Projected Contribution Amounts – Level % of Pay



TRS Funding Ratio – Level % of Pay



Fiscal Year Ending June 30



Questions?

February 7, 2013

VIA EMAIL

Mr. Jim Puckett
 Mr. Mike Barnhill
 State of Alaska
 PO Box 110203
 Juneau AK 99811

Re: Proposed Alaska June 30, 2012 Retiree Health Plan Valuation Assumptions and Impact on Valuation Results (Revised)

Dear Jim and Mike:

As per our discussion on December 20, 2012, Buck Consultants (Buck) is proposing health cost, plan factors and cost increase assumption updates for use in the June 30, 2012 valuation results. We review key health plan assumptions annually and assess the need to make changes. We recommend an update in these assumptions as they were last updated at least 4 years ago (for the June 30, 2008 valuation), plus recent DCR plan design strategies, healthcare legislation, and variations in costs between Medicare and non-Medicare populations indicate a need to update these assumptions. We have revised our previous letter of January 4, 2013 to include the impact on the Normal Cost rates as discussed on February 4, 2013.

Retiree Healthcare Cost Rates

- Buck reviews and update these rates annually based on updated claim cost reporting.
- Recent experience and new data used to update the proportion of individuals not eligible for Medicare Part A are the drivers for favorable per capita claim cost increases.
- Rates below are age 65 per capita claim cost (PCCC) rates
- Applies to all plans: PERS/TRS/JRS – defined benefit and PERS/TRS DCR plan

Cost Category	PCCC used 6/30/2011	PCCC expected 6/30/2012	Increase	PCCC proposed 6/30/2012	Variance from expected	Estimated Aggregate Impact to Valuation Results (APBO)
Pre-Medicare Medical	\$ 9,497	\$ 10,105	6.4%	\$ 9,856	(2.5%)	(6.1%)
Medicare A&B Medical	\$ 1,551	\$ 1,650	6.4%	\$ 1,628	(1.3%)	
Medicare B only Medical	\$ 6,936	\$ 7,380	6.4%	\$ 6,219	(15.7%)	
Prescription Drug	\$ 2,799	\$ 2,998	7.1%	\$ 2,736	(8.7%)	
Retiree Drug Subsidy	\$ 534	\$ 572	7.1%	\$ 535	(6.5%)	

Retiree Healthcare Cost Rates

Impact to Normal Cost Rates

Group	Impact to Normal Cost Rate
PERS	(0.32%)
TRS	(0.20%)
PERS – DCR	(0.03%)
TRS - DCR	(0.03%)

Retiree Healthcare Cost Trend Rates

- Buck reviews this assumption annually, generally recommending a re-set every 3-5 years depending on group-specific and industry experience and events
- This assumption was last re-set for the 2008 valuation
- Buck reviewed recent plan experience, evaluated the potential impacts of healthcare legislation and ongoing industry trends, and updated long-term forecasts using the Society of Actuaries’ updated long-term trend model in setting the proposed rates
- Plan liability is weighted toward ages 65 and greater based on plan enrollment and the proportion of time participants are in the plan while Medicare eligible. Thus, Medicare-based cost trends have more influence on valuation results.
- Disparities in medical care cost trends between non-Medicare and Medicare-eligible participants indicate a need for distinct healthcare cost trend assumptions.
- Applies to all plans: PERS/TRS/JRS – defined benefit and PERS/TRS DCR plan

The table below shows the rate used to project the cost from the shown fiscal year to the next fiscal year. For example, 6.4% is applied to the FY12 medical claims cost to get the FY13 medical claims cost.

Fiscal Year	Current Medical Trend	Current Rx Trend	Pre-Medicare Medical Trend Proposed	Medicare Medical Trend Proposed	Proposed Rx Trend	Estimated Aggregate Impact to Valuation Results (APBO)
2012	6.4%	7.1%	NA	NA	NA	2.7%
2013	5.9%	5.9%	9.01%	6.48%	6.38%	
2014	5.9%	5.9%	8.75%	6.41%	6.30%	
2015	5.9%	5.9%	8.51%	6.34%	6.23%	
2016	5.9%	5.9%	8.03%	6.26%	6.15%	
2017	5.9%	5.9%	7.54%	6.19%	6.08%	
2018	5.9%	5.9%	6.96%	6.12%	6.00%	
2025	5.8%	5.8%	5.96%	5.95%	5.80%	
2050	5.7%	5.7%	5.00%	5.00%	5.00%	
2100	5.1%	5.1%	4.50%	4.50%	4.50%	

Retiree Healthcare Cost Trend Rates – continued

Comparison of composite medical trend rate assumptions:

Fiscal Year	Current Medical Trend	Weighted Average Medical Trend Proposed *
2012	6.4%	NA
2013	5.9%	7.29%
2014	5.9%	7.16%
2015	5.9%	7.03%
2016	5.9%	6.83%
2017	5.9%	6.62%
2018	5.9%	6.39%
2025	5.8%	5.95%
2050	5.7%	5.00%
2100	5.1%	4.50%

*Based upon proportion of liability that is Pre-Medicare vs. Medicare

Impact to Normal Cost Rates:

Group	Impact to Normal Cost Rate
PERS	0.12%
TRS	0.06%
PERS – DCR	0.01%
TRS - DCR	0.01%

DCR Plan Factors and Participation Assumptions

- Plan adjustment from current defined benefit medical plans to a lower initial relative value
 - These values were reduced to reflect recent plan design discussions and anticipated reduced costs due to deeper network discounts over time and higher, plan design-driven network utilization
 - Medical was 94.1% of the defined benefit plan value, recommended relative value is 88.1%
 - Pharmacy was 99.3% of the defined benefit plan value, recommended relative value is 92.9%
- Participation based upon age and service at decrement
 - These rates were reduced to reflect the potential for relocation and election of alternatives in the individual marketplace
 - This assumption was enhanced to reflect that participants may become retirement eligible prior to Medicare eligibility and choose to participate in the plan paying full cost. Our recommended assumption now varies depending on time from assumed retirement to Medicare eligibility (i.e. the duration that future retirees will have to pay full plan cost and thus potentially drop DCR coverage in favor of exchange-based coverage)
- Benefit value adjustment for increasing member cost-sharing features
 - This assumption adjusts plan value to anticipate the impact of sharing cost trend increases between the plan and the participant
 - Previously, our plan adjustment factors resulted in a majority of cost increases shifting to participants
 - We updated this assumption to reflect the plan absorbing cost increases closer to long-term healthcare cost increases.
 - Annual plan value offset was (4.8%), recommended value is now (0.2%)
- Applies to PERS/TRS DCR plans only

Group	Impact to Normal Cost Rate
PERS – DCR	0.90%
TRS - DCR	1.19%

Mr. Jim Puckett
Mr. Mike Barnhill
February 7, 2013
Page 5

Please let us know if you have any questions regarding the retiree healthcare rate recommendations.

Sincerely,



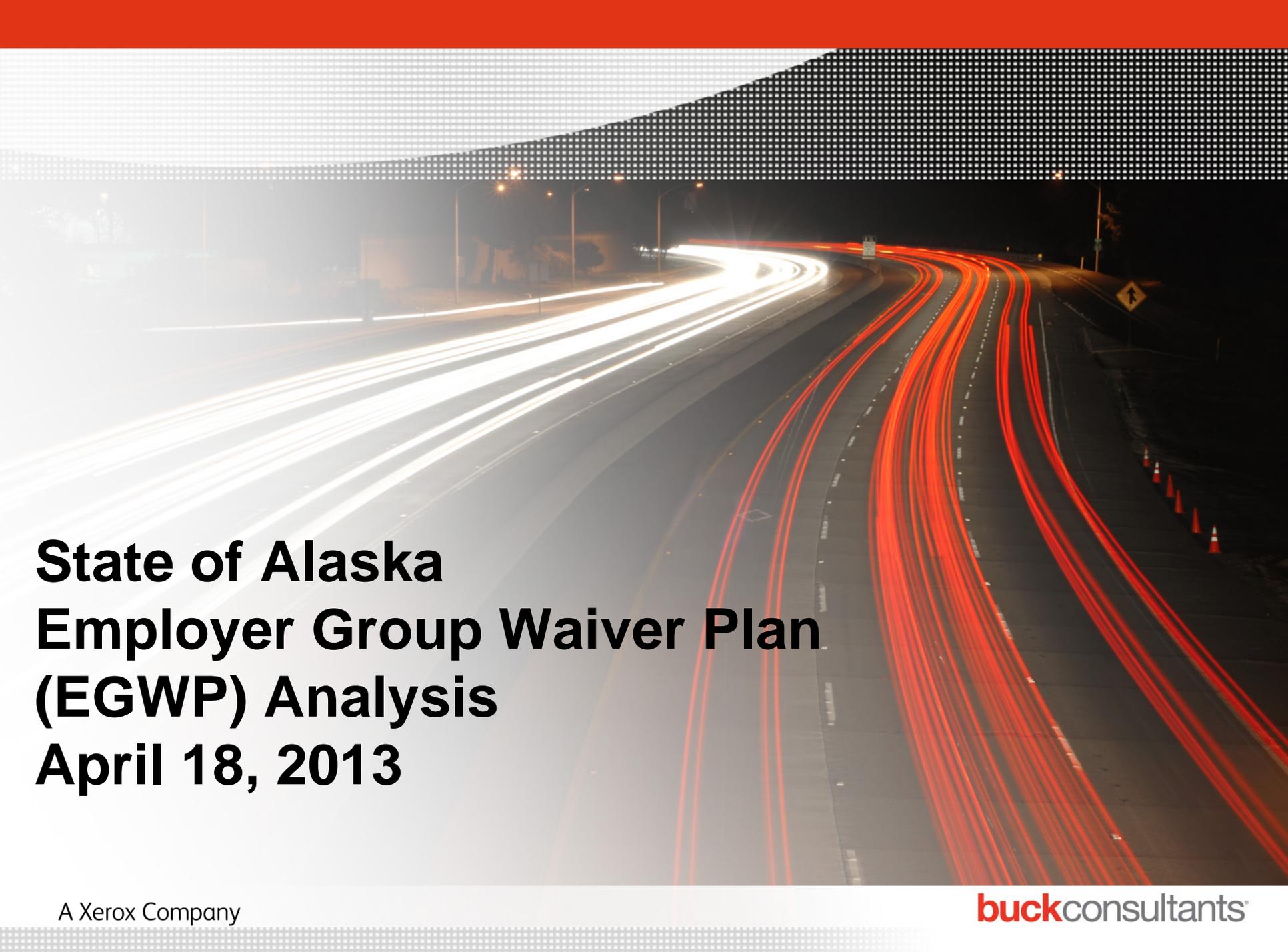
David H. Slisinsky, FCA, ASA, EA, MAAA
Principal and Consulting Actuary



Melissa Bissett, FSA, MAAA
Senior Consultant

/kr

cc: Ms. Monica DeGraff, Buck Consultants
Mr. Christopher Hulla, Buck Consultants
Mr. Daniel Levin, Buck Consultants



**State of Alaska
Employer Group Waiver Plan
(EGWP) Analysis
April 18, 2013**

RDS Overview

- The Retiree Drug Subsidy (RDS) is a program offered by the Centers for Medicare & Medicaid Services (CMS) to reimburse municipalities, unions and private employers for a portion of their eligible expenses for retiree prescription benefits
- Members being claimed for the RDS cannot also enroll in Part D
- The RDS program provides 28% reimbursement from CMS between the Cost Threshold and Cost Limit (\$310 - \$6,350 for 2014)
- When the Part D program first deployed in 2006, most employers/ unions chose to collect the RDS rather than join Part D plans/EGWPs because the RDS was believed to be the “path of least resistance”
- It is now well known that electing to receive the RDS carries with it significant administrative burden
- CMS predicted that there would be a gradual migration from RDS to EGWP over the years

EGWP Overview

- An EGWP PDP is an employer-sponsored group Medicare Part D plan for which CMS has waived or modified certain Part D requirements under statutory authority
- The PBM contracts directly with CMS to provide this plan
- Employers, Unions, or Trustees of a Fund may enroll their Medicare eligible retiree members in EGWPs
- EGWPs can be self-funded or fully insured
- EGWP PDP Revenue Streams from CMS:
 - Risk-Adjusted PMPM Direct Subsidy (monthly)
 - Low-Income Premium Subsidy (monthly)
 - Low-Income Cost Sharing Subsidy (annual)
 - Catastrophic Reinsurance Subsidy (annual)
 - Coverage Gap Discount Payments (quarterly)

Why Consider an Employer Group Waiver Plan (EGWP)?

- This topic is of interest to ALL employers with Rx coverage on Medicare primary lives (retirees and disabled employees and their Medicare eligible dependents on Medicare)
 - Participants in the Retiree Drug Subsidy (RDS) program
 - Those who don't get RDS, due to failing the actuarial equivalence test
- Federal health care reform legislation passed in March 2010 created compelling reasons to re-examine prescription drug programs for Medicare eligible retirees
- Reduced RDS participation expected the next several years
- Buck is currently assisting employers in maximizing available savings on both a cash and accounting basis.
- Analysis indicates that a change in approach will capture subsidies that exceed RDS and offset accounting liability, while preserving retiree cost sharing

Why Consider an Employer Group Waiver Plan (EGWP)? (Cont'd)

- Combination of two separate plans to match the Employer/Union plan
 - Primary Coverage: Medicare Part D group plan (called an Employer Group Waiver Plan or EGWP) for primary coverage as a fully-insured or self-funded financial arrangement.
 - Use of a standard Medicare Part D formulary (coverage & UM)
 - CMS-regulated plan coverage requirements and plan design features
- Secondary Coverage: Client's self-funded 'Wrap-around' coverage to the EGWP plan
 - Similar in concept to a Medicare Supplement plan around Part A&B for medical
 - Covers drugs that the EGWP doesn't cover, non-Part D covered drugs, non formulary drugs and brands in the Gap for the Coverage Gap Discount Program and matches copays of the current plan
 - Single-Transaction coordination of benefits (COB) acts as a single plan for members to reduce member disruption

Why Consider an Employer Group Waiver Plan (EGWP)? (Cont'd)

- Reduces administrative burden
 - In general, responsibility for EGWP administration shifts from employer to the PBM
 - PBM handles all appeals, grievances, compliance, etc. with assistance from the employer/union on eligible members for enrollments/dis-enrollments
 - No actuarial attestations or reconciliations with CMS
 - Eliminates need for creditable notice of coverage notifications for retirees enrolled in the EGWP
 - Close coordination with client regarding enrollments/dis-enrollments

Potential Obstacles

- **Direct subsidy amount varies by retrospective CMS risk factor**
 - Can't estimate ahead of time
 - Usually provide range such as 0.85, 0.90, and 0.95
 - EGWP has sufficient savings to make the leveraging of the risk factor a secondary issue
- **Successful Implementation depends on capabilities/experience of PBM**
 - Strive for minimum of six months lead time, but less may be possible
- **Non Calendar year plans will have to switch to calendar year to maximize savings (else federal reinsurance not available)**
- **Claim level claims data is crucial for estimation of external subsidies**
- **Administrative considerations are a bit complex and require collaboration with Prescription Drug Benefit Managers (PBMs)**

Financial Analysis

State of Alaska 2013 Projected Prescription Drug Costs

	Current Plan	Replicate Current Design		
	(RDS)	EGWP		
Risk Adjustment Factor	N/A	0.85	0.90	0.95
Projected 2013 Gross Drug Cost	\$57,244,000	\$57,244,000	\$57,244,000	\$57,244,000
Member Cost Sharing	(1,649,000)	(1,512,000)	(1,512,000)	(1,512,000)
Net Claims Costs	\$55,595,000	\$55,732,000	\$55,732,000	\$55,732,000
Vendor Administrative Fees	\$751,000	\$3,103,000	\$3,103,000	\$3,103,000
Rebates	(2,862,000)	(2,862,000)	(2,862,000)	(2,862,000)
Total Annual Plan Costs	\$53,484,000	\$55,973,000	\$55,973,000	\$55,973,000
External Financing:				
RDS (Federal)	(\$10,951,000)	N/A	N/A	N/A
Catastrophic Reinsurance (Federal)	N/A	(\$598,000)	(\$598,000)	(\$598,000)
Direct Subsidy to EGWP (Federal)	N/A	(12,682,000)	(13,953,000)	(15,225,000)
Pharm. Co. Discounts (Drug Manufacturers)	N/A	(7,578,000)	(7,578,000)	(7,578,000)
Total Subsidies	(\$10,951,000)	(\$20,858,000)	(\$22,129,000)	(\$23,401,000)
Net Annual Plan Cost	\$42,533,000	\$35,115,000	\$33,844,000	\$32,572,000
Estimated Annual Cash Savings/(Cost):				
Pharmacy Plan		\$7,418,000	\$8,689,000	\$9,961,000
Retirees		\$137,000	\$137,000	\$137,000
Total Savings/(Cost)		\$7,555,000	\$8,826,000	\$10,098,000
Estimated Percentage Savings/(Cost):				
Pharmacy Plan		17.4%	20.4%	23.4%
Retirees		8.3%	8.3%	8.3%

Assumptions/Notes:

- Reflects 23,000 utilizers and 2,857 non-utilizers
- Based on January 2011 to December 2011 Data for those members 65+ as of 1/1/2013
- Reflects current plan design of \$4/\$8 retail and \$0/\$0 mail
- Annual trend assumptions: 2% utilization, 4% generic cost, 8% brand cost
- Reflects projected RDS subsidy of \$261 PMPY for 2013
- EGWP fee assumed to be \$10.00 PMPM
- Does not reflect any changes in discounts, formulary mix, or rebates under the EGWP
- Low income subsidy savings to participants is not reflected
- RDS reimbursements assumed to be collected once at final reconciliation

Retiree Impact

- **Several experienced and proven PBMs have single card, single transaction adjudication, so result is transparent to retiree**
- **Minor benefit changes mandated by use of EGWP**
 - Minor formulary changes in EGWP to comply with CMS (can address in wrap plan)
 - Therapeutic management program (retiree can opt-out)
 - Impact for retirees who have other coverage (e.g. Medicare Advantage plans)
 - High income seniors pay additional Part D premium deductions from social security checks
 - Similar high income deductions already on Medicare B premiums
- **Plan design can usually be “mirrored” to avoid any losers**
 - In some cases retiree wins (brand copay in donut hole > 47.5 % of ing. cost)
- **Additional premium and cost sharing funding for low income retirees provided by federal government (LIPS and LICS)**

Other Issues/Decisions Where Buck Will Help

- **PBM does a lot of the “heavy lifting”**
 - Increased PMPM administrative fees versus RDS (small compared to savings)
- **EGWP requires Health Identification claim numbers (HICNs), not just SSNs**
 - Can be difficult to collect, VDSA agreements can help
 - Medical carrier may have most of them, but mailing may be needed
- **CMS mandatory communications likely need supplementation with customized employer communication material**
- **How will the State handle distribution of the Low Income Premium Subsidy to appropriate retirees**
- **How to address high income retirees who will see a SS deduction**
- **Specific retiree group meetings may be desirable (Buck lead)**



ARMB Board Meeting

Investment Performance
Periods Ended 12/31/12

Michael J. O'Leary, CFA
Executive Vice President

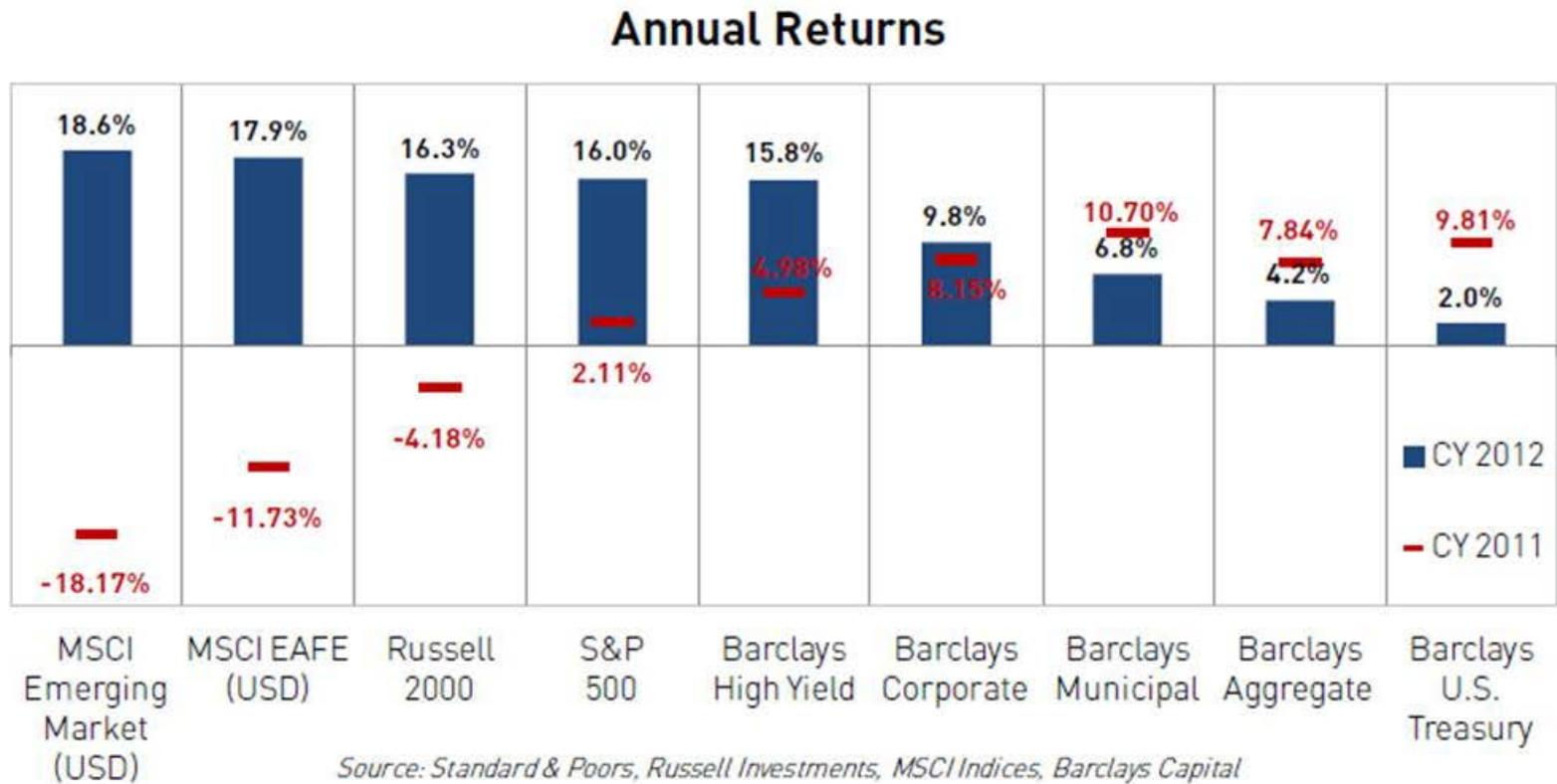
Paul Erlendson
Senior Vice President

Agenda

- Economic & Market Summary
- Performance Overview
 - DB Plans
- DB Domestic Equity Structure Update
 - Overall characteristics
 - Large Cap & Small Cap
 - Focus on “Other & Relational” soon to be regrouped and renamed
- Individual Account Plans
- Supplemental Materials for Reference

2012 vs. 2011 Returns for Major Asset Categories

Reversal of 2011 Performance Patterns



Source PNC Capital Advisors

2012 Equity Returns



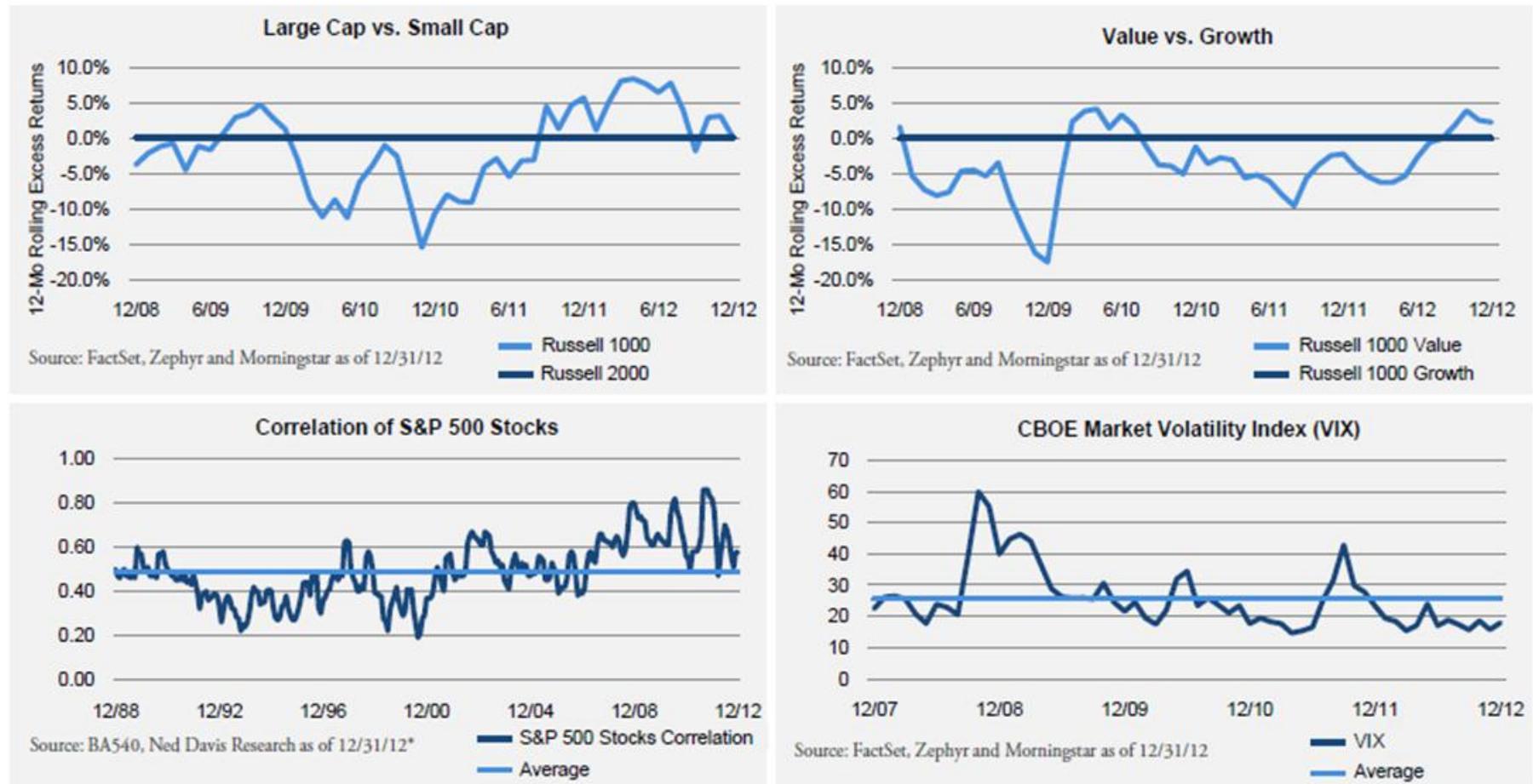
Total Returns					
Equity Indices	1Q12	2Q12	3Q12	4Q12	CY2012
S&P 500	12.59%	-2.75%	6.35%	-0.38%	16.00%
Russell 1000	12.90%	-3.12%	6.31%	0.12%	16.42%
Russell 1000 Value	11.12%	-2.20%	6.51%	1.52%	17.51%
Russell 1000 Growth	14.69%	-4.02%	6.11%	-1.32%	15.26%
Russell 2000	12.44%	-3.47%	5.25%	1.85%	16.35%
Russell 2000 Value	11.59%	-3.01%	5.67%	3.22%	18.05%
Russell 2000 Growth	13.28%	-3.94%	4.84%	0.45%	14.59%
Russell 3000	12.87%	-3.15%	6.23%	0.25%	16.42%
MSCI ACWI (USD)	12.01%	-5.36%	6.97%	3.01%	16.80%
MSCI EAFE (USD)	10.98%	-6.85%	6.98%	6.60%	17.90%
MSCI Emerging Market (USD)	14.13%	-8.77%	7.89%	5.61%	18.63%

Source: Standard & Poors, Russell Investments, MSCI Indices

- Very positive public equity returns around the world
- Non-U.S. equities outperformed slightly as European fears were reduced
- Remember that U.S. equities outperformed strongly in 2011

Domestic Equity Performance Factors

Equity Performance and Volatility Analysis



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Source: Eaton Vance

International Equity Performance

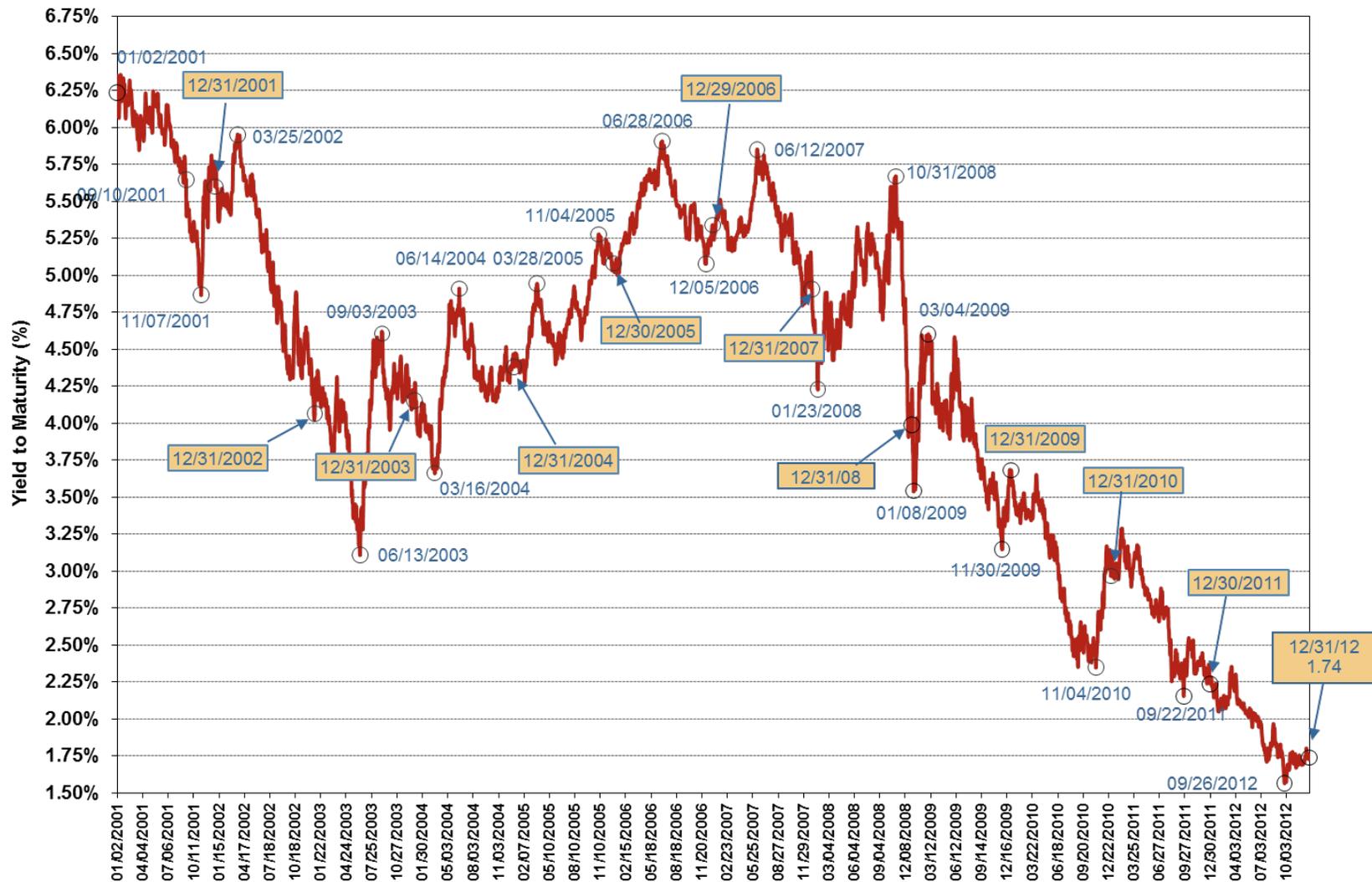
Style Median and Index Returns* for Periods ended December 31, 2012

International Equity	Quarter	Year	3 Years	5 Years	10 Years	15 Years
Global Style	3.57	18.30	7.23	-0.59	9.16	6.36
Non-U.S. Style	6.20	19.02	5.44	-2.22	9.61	6.62
Core Style	6.57	18.86	5.43	-2.29	9.10	6.50
MSCI EAFE–Unhedged	6.57	17.32	3.56	-3.69	8.21	4.38
MSCI EAFE–Local	7.52	17.31	2.60	-4.25	5.42	2.54
MSCI EAFE Growth–Unhedged	5.77	16.86	4.85	-3.09	7.77	3.18
MSCI EAFE Value–Unhedged	7.39	17.69	2.19	-4.34	8.57	5.41
MSCI World–Unhedged	2.49	15.83	6.93	-1.18	7.51	4.20
MSCI World–Local	2.93	15.71	6.35	-1.50	6.09	3.32
MSCI AC World ex U.S.–Unhedged	5.89	17.39	4.33	-2.44	10.22	5.75
MSCI AC World–Unhedged	3.01	16.80	7.19	-0.61	8.66	5.01
Pacific Equity	Quarter	Year	3 Years	5 Years	10 Years	15 Years
Pacific Basin Style	6.00	18.85	7.77	-1.16	11.52	6.36
Japan Style	6.86	8.18	4.02	-2.36	6.17	3.33
Pacific Rim Style	5.60	21.03	6.85	-0.10	16.20	10.93
MSCI Pacific–Unhedged	5.90	14.42	4.59	-2.01	7.99	3.80
MSCI Pacific–Local	12.64	21.72	1.19	-6.54	4.07	0.85
MSCI Japan–Unhedged	5.78	8.18	2.28	-4.25	4.93	1.50
MSCI Japan–Local	17.56	21.57	-0.21	-9.04	1.66	-1.23
Europe Equity	Quarter	Year	3 Years	5 Years	10 Years	15 Years
Europe Style	7.25	23.06	4.82	-2.94	9.91	6.53
MSCI Europe–Unhedged	7.02	19.12	3.25	-4.34	8.37	4.71
MSCI Europe–Local	5.14	15.61	3.84	-2.67	6.36	3.60
Emerging Markets	Quarter	Year	3 Years	5 Years	10 Years	15 Years
Emerging Markets Style	5.94	19.86	5.11	-1.35	17.59	10.78
MSCI EM–Unhedged	5.61	18.63	4.98	-0.61	16.88	9.24
MSCI EM–Local	5.36	17.39	5.54	0.75	15.28	10.43
International Small Cap Equity	Quarter	Year	3 Years	5 Years	10 Years	15 Years
Small Cap Style	5.53	23.40	9.86	-0.51	13.67	10.66
MSCI EAFE Small Cap–Unhedged	6.01	20.00	7.17	-0.86	11.93	--

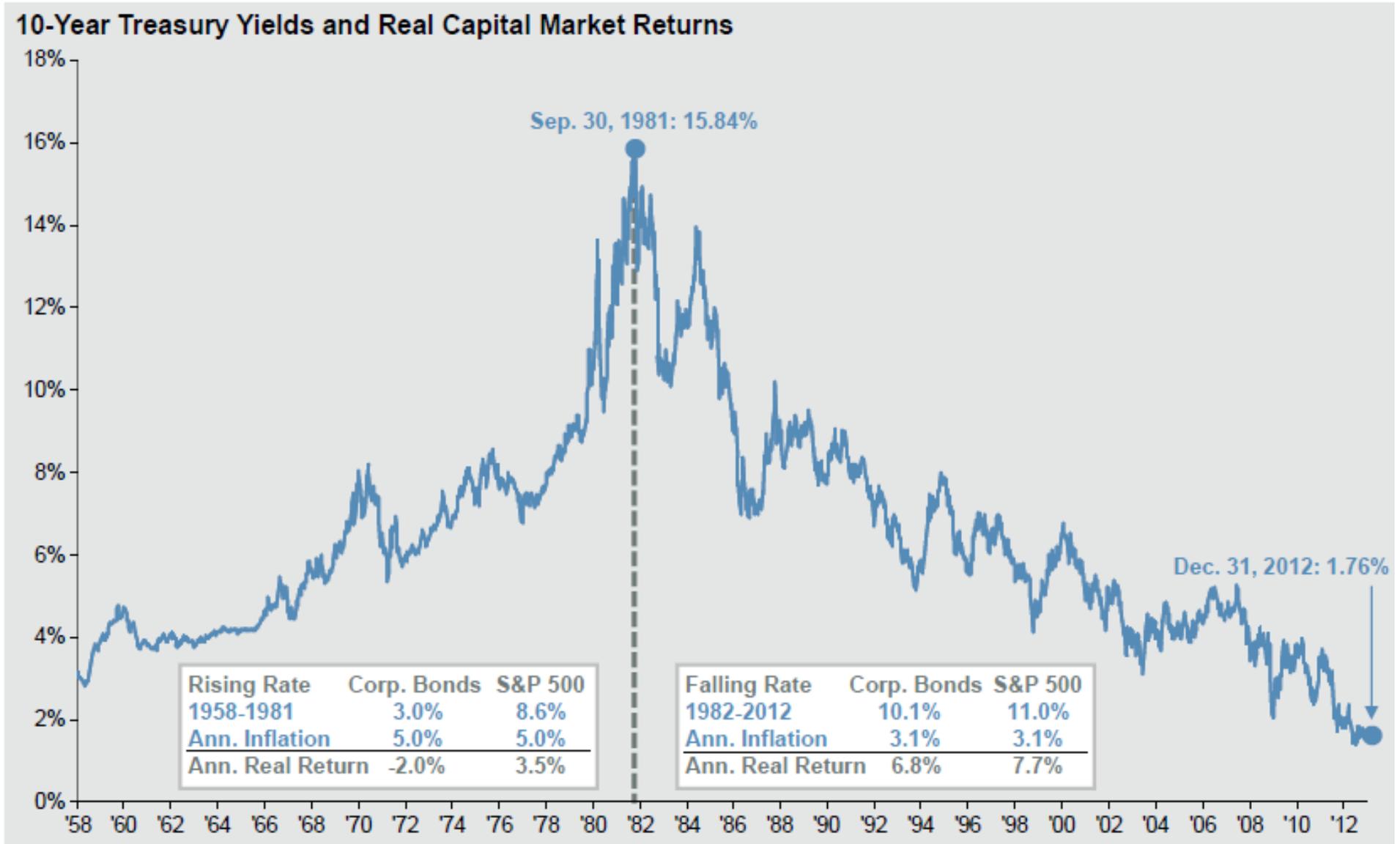
*Returns less than one year are not annualized.
Sources: Callan Associates Inc., MSCI Inc.

BC Aggregate – Yield to Worst

BC Aggregate Index - Daily Yield to Worst from 1/2/01 to 12/31/12



A Longer Term Perspective – 10 Year Treasury



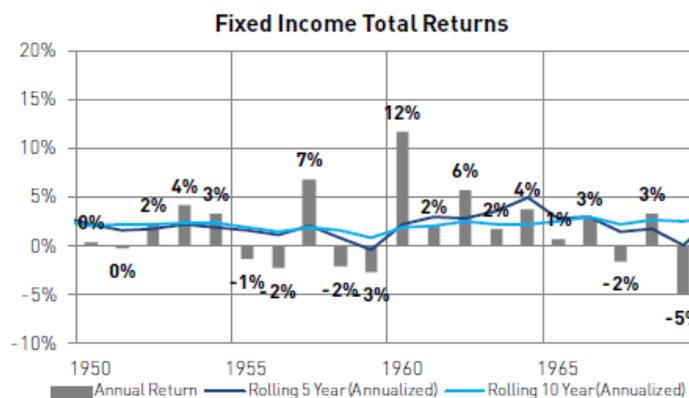
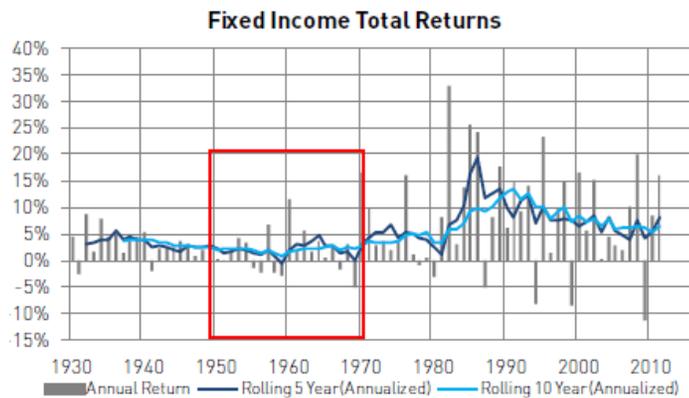
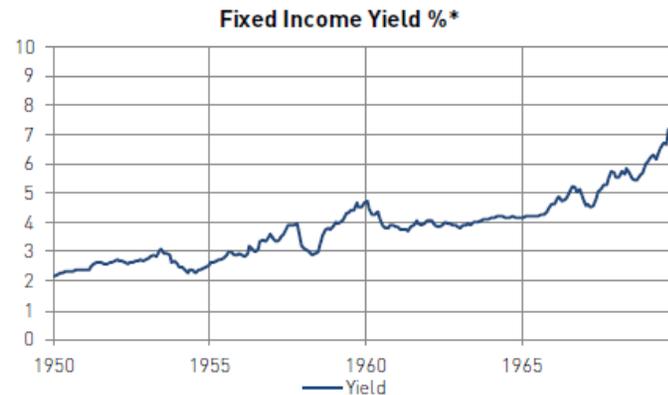
Source: JP Morgan Guide to the Markets Q1 2013

Historic Perspective

Treasury Index (for most of the graphs 10-year constant maturity Treasury)

Rising Interest Rates: A Historical Perspective

- Interest rates rose from low levels during the late 1950's and investment returns fell for a number of years. We could see a similar pattern once interest rates begin to rise, with the potential for slightly worse returns given the low absolute level of interest rates.



11

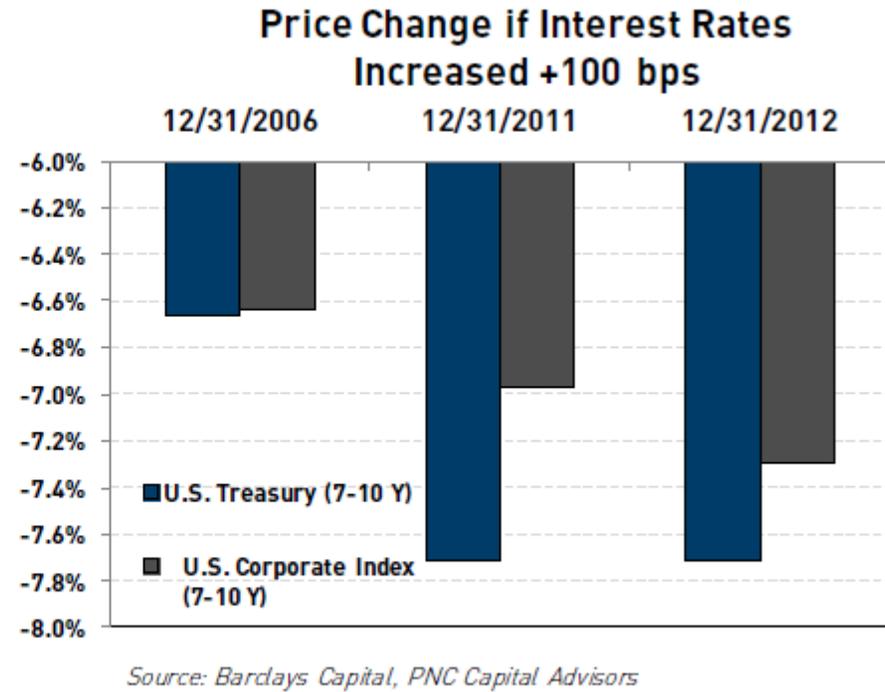
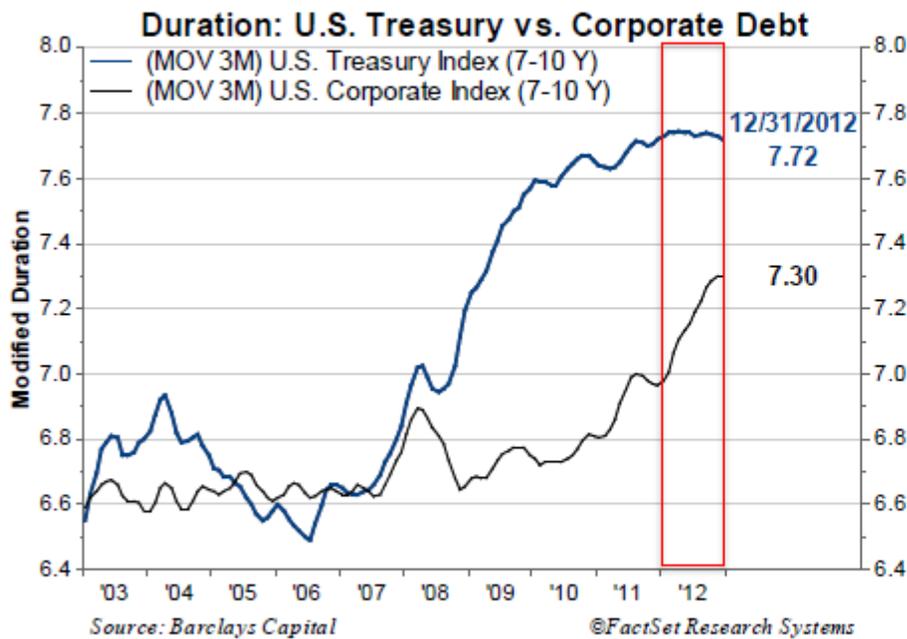
Source: *Yields from Federal Reserve:H15:
 Yields from 1930-1953 are Long Term Composite yields;1953 to Current are 10-Year Treasury Constant Maturity.
 Annual Total Returns: http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/histretSP.html



Duration increases as yields decline

A large portion of new debt issues are driven by desire to lock in low rates for borrowers.

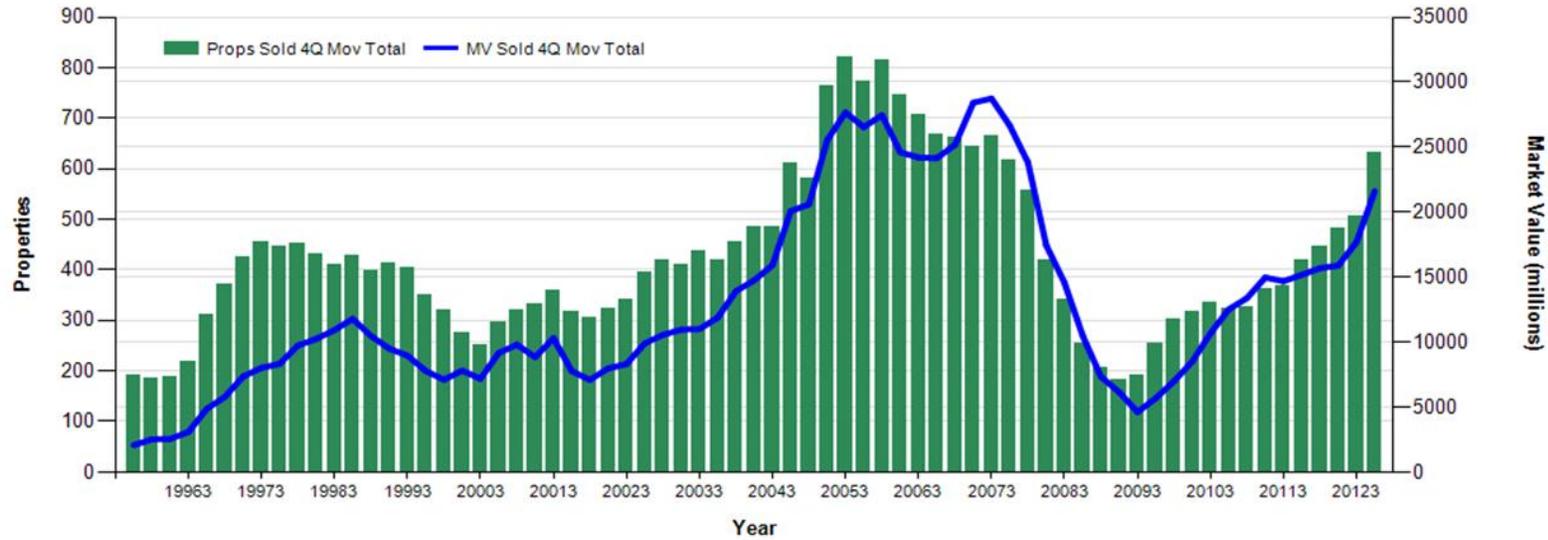
Result is increased sensitivity to price declines if rates rise.



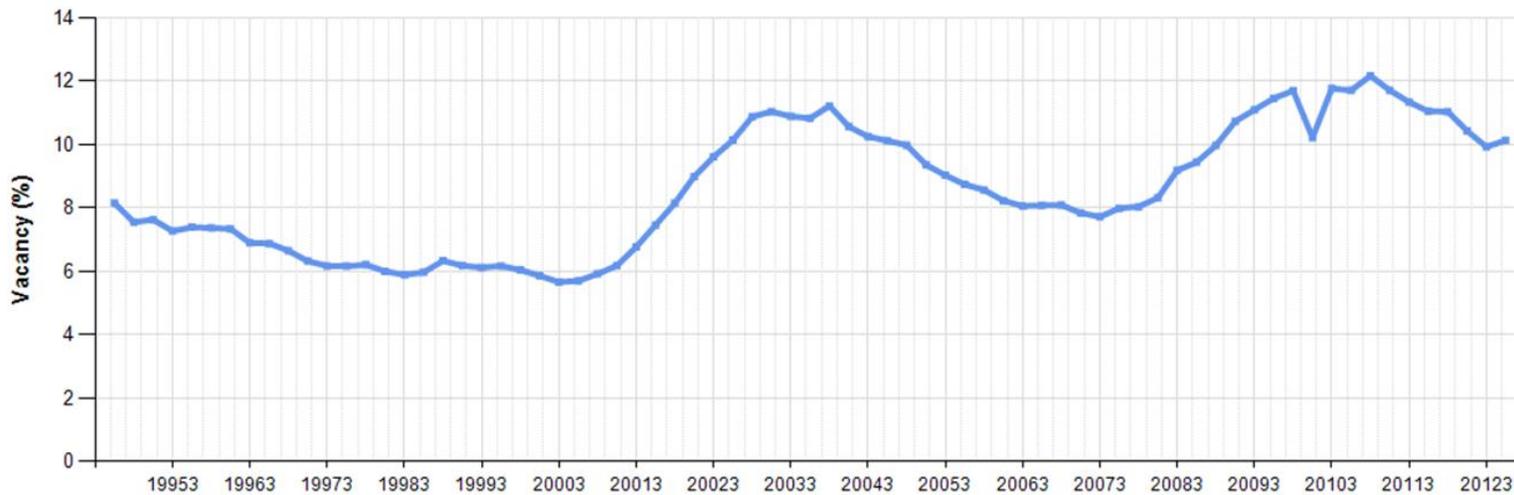
- Note that duration of Treasury Index was essentially unchanged in 2012 while duration of Corporate Index increased owing to spread narrowing & new issues

Activity & Vacancy

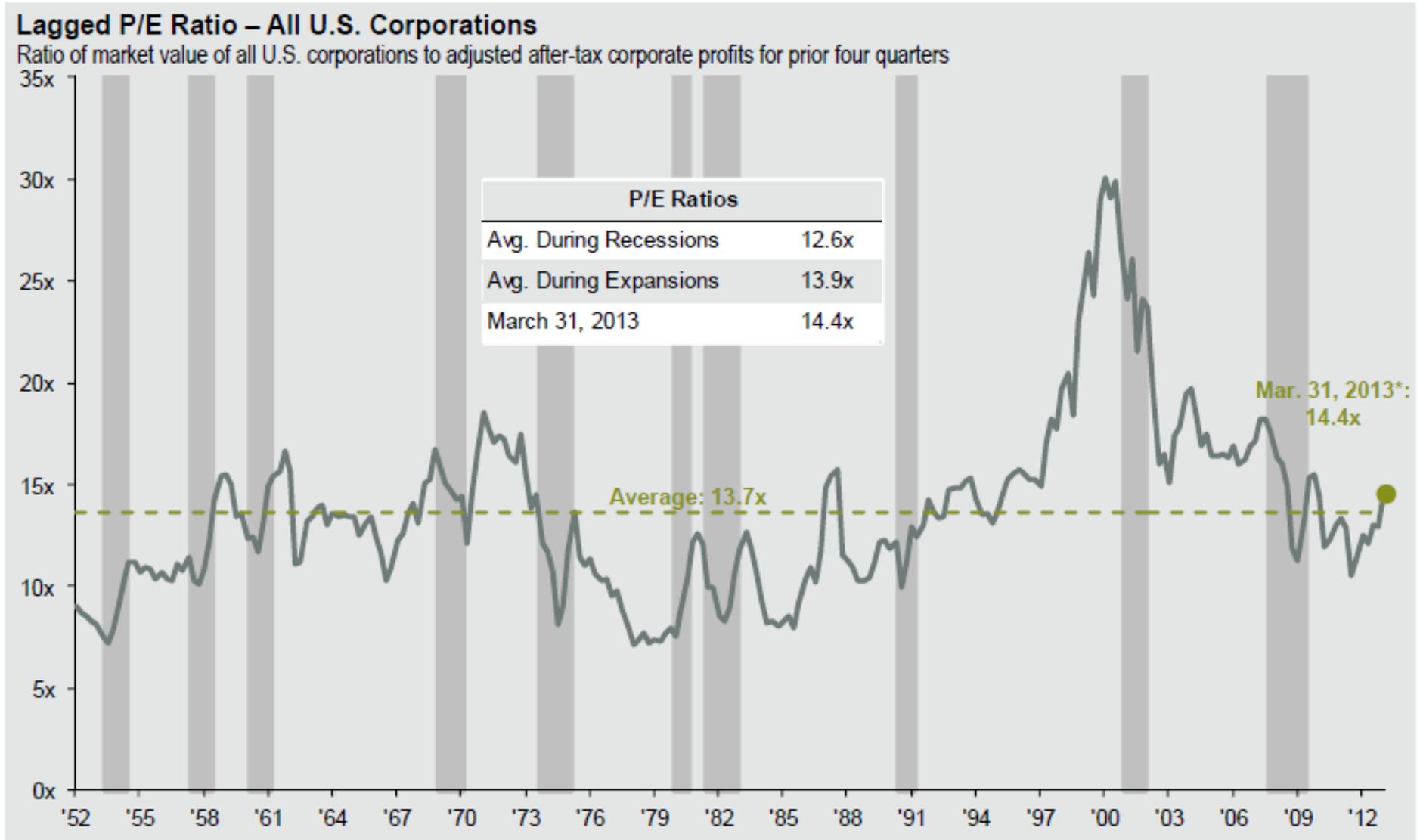
Property Sales (annualized)



Vacancy



Domestic Equity Valuations – not cheap nor expensive



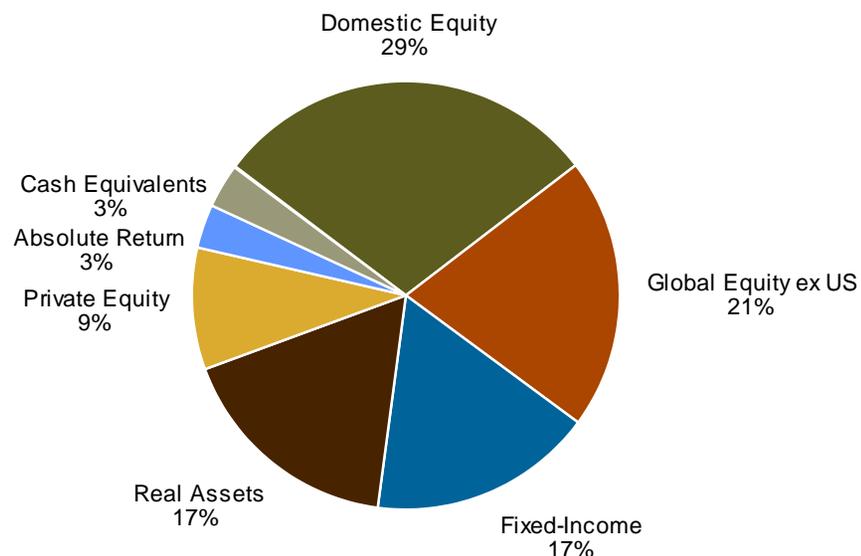
Source: BEA, Federal Reserve Board, Wilshire Associates, J.P. Morgan Asset Management.

Source: JP Morgan Guide to the Markets Q1 2013

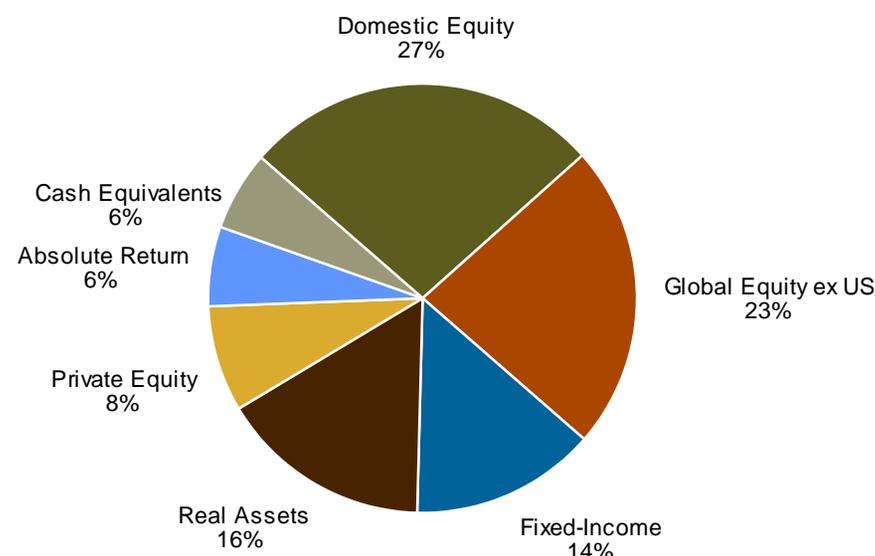
Asset Allocation – Employees’ Retirement Plan

ERP is used as illustrative throughout the presentation. The other plans exhibit similar modest and understandable variations from strategic target allocations.

Actual Asset Allocation



Target Asset Allocation

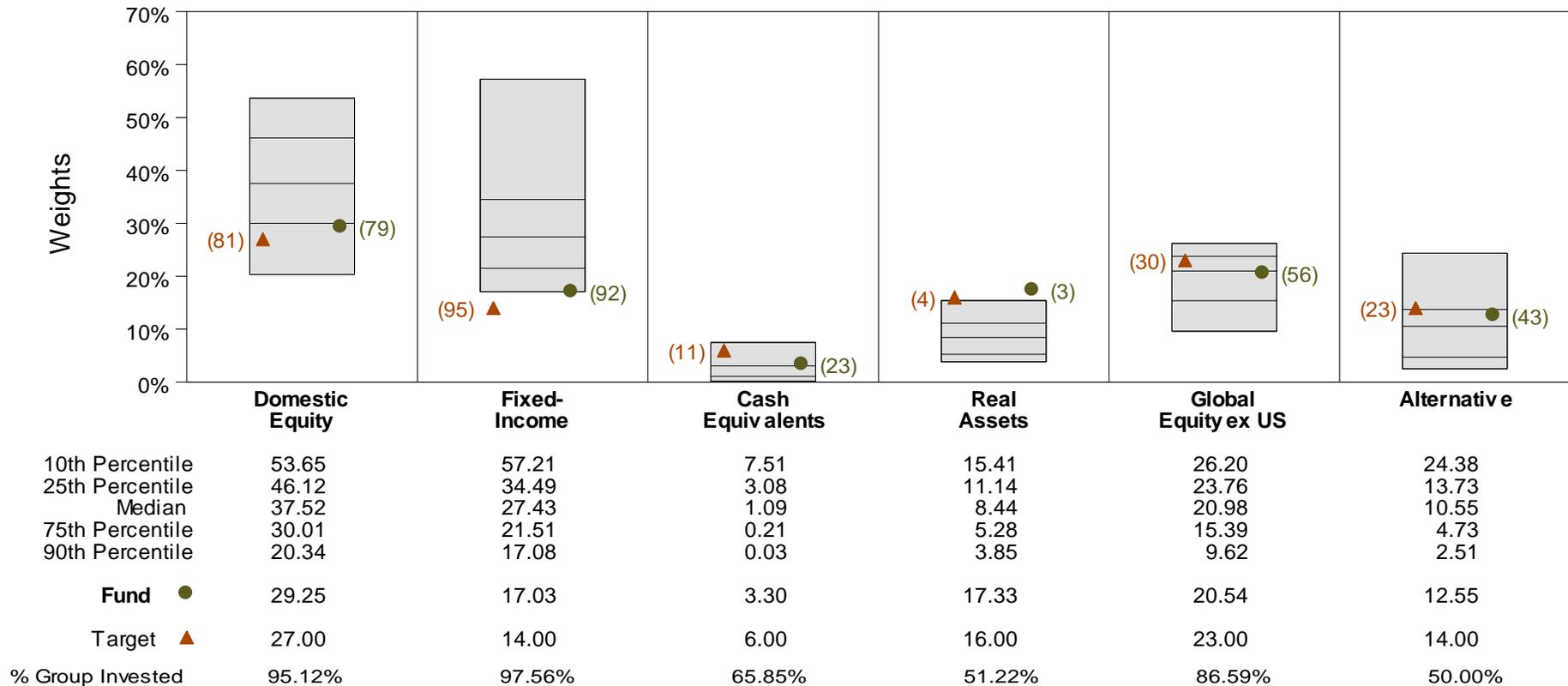


Asset Class	\$000s Actual	Percent Actual	Percent Target	Percent Difference	\$000s Difference
Domestic Equity	1,887,664	29.3%	27.0%	2.3%	145,458
Global Equity ex US	1,325,227	20.5%	23.0%	(2.5%)	(158,874)
Fixed-Income	1,098,957	17.0%	14.0%	3.0%	195,591
Real Assets	1,118,302	17.3%	16.0%	1.3%	85,883
Private Equity	593,756	9.2%	8.0%	1.2%	77,676
Absolute Return	215,762	3.3%	6.0%	(2.7%)	(171,395)
Cash Equivalents	212,948	3.3%	6.0%	(2.7%)	(174,209)
Total	6,452,616	100.0%	100.0%		

Asset Allocation Versus Public Funds (ERP)

Callan Public Fund Database

Asset Class Weights vs CAI Public Fund Sponsor Database



- Total domestic equity is above target while international equity is below target.
- Real assets and alternatives are high when compared to other public funds. Policy is “growth” oriented as opposed to “income” oriented.

*Note that “alternative” includes private equity and absolute return

PERS Performance – 4th Quarter 2012 & Trailing 12 Months

Relative Attribution Effects for Quarter ended December 31, 2012

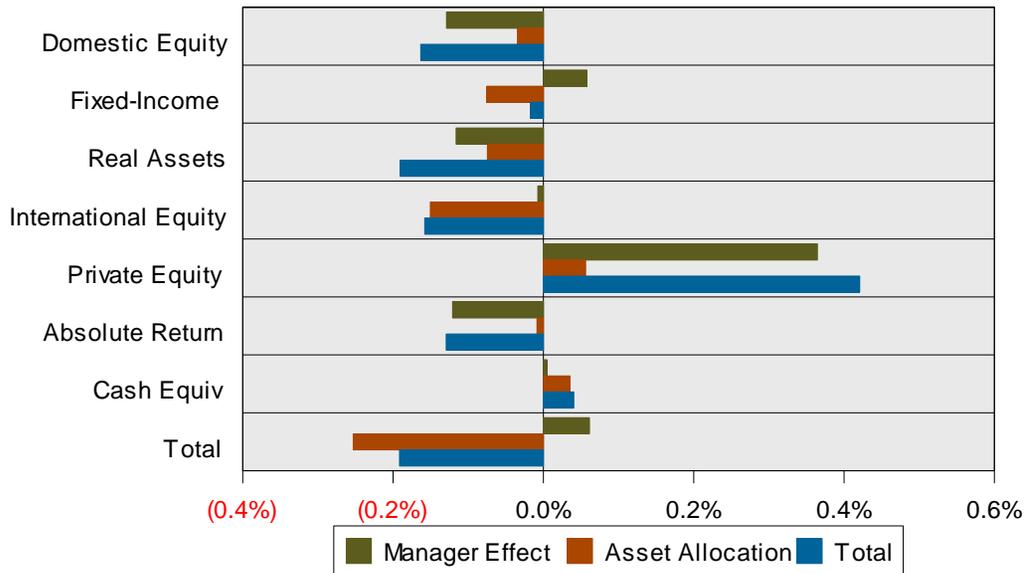
Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return		
Domestic Equity	30%	27%	0.52%	0.25%	0.08%	(0.05%)	0.03%		
Fixed-Income	17%	14%	0.49%	0.25%	0.04%	(0.06%)	(0.02%)		
Real Assets	17%	16%	1.14%	3.24%	(0.35%)	0.01%	(0.34%)		
Global Equity ex US	20%	23%	5.44%	5.89%	(0.09%)	(0.11%)	(0.20%)		
Private Equity	9%	8%	3.18%	2.68%	0.05%	0.01%	0.05%		
Absolute Return	3%	6%	1.05%	1.27%	(0.01%)	0.03%	0.02%		
Cash Equivalents	4%	6%	0.06%	0.04%	0.00%	0.04%	0.04%		
Total			1.85%	= 2.27%	+	(0.28%)	+	(0.14%)	(0.42%)

One Year Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return		
Domestic Equity	30%	27%	14.81%	16.42%	(0.47%)	0.09%	(0.38%)		
Fixed-Income	17%	16%	5.00%	3.19%	0.31%	(0.13%)	0.18%		
Real Assets	16%	16%	9.68%	10.39%	(0.15%)	(0.02%)	(0.17%)		
Global Equity ex US	21%	23%	17.09%	17.39%	(0.04%)	(0.27%)	(0.31%)		
Private Equity	9%	8%	14.04%	16.63%	(0.27%)	0.09%	(0.18%)		
Absolute Return	4%	6%	4.75%	5.11%	(0.02%)	0.13%	0.11%		
Cash Equiv	3%	4%	0.50%	0.11%	0.01%	0.15%	0.16%		
Total			11.79%	= 12.38%	+	(0.61%)	+	0.02%	(0.59%)

PERS Intermediate Term Performance

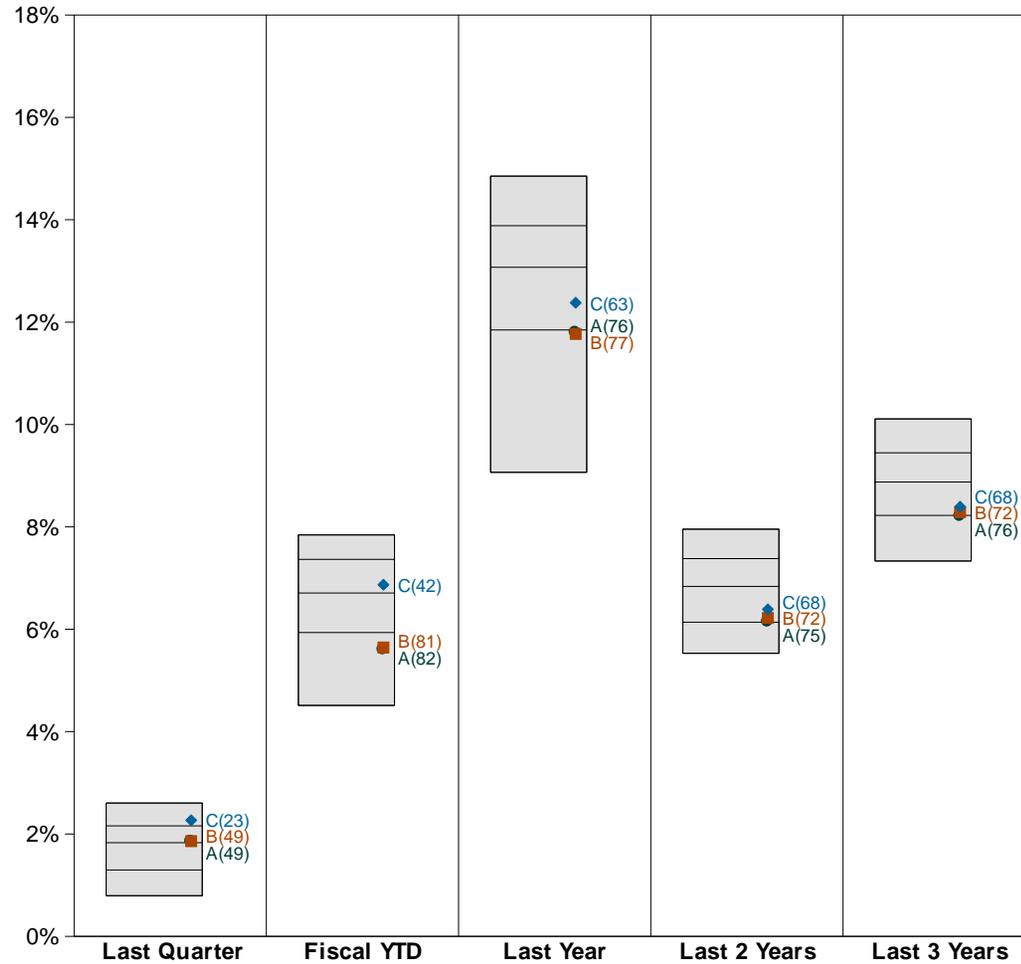
Three Year Annualized Relative Attribution Effects



Three Year Annualized Relative Attribution Effects

Asset Class	Effective Actual Weight	Effective Target Weight	Actual Return	Target Return	Manager Effect	Asset Allocation	Total Relative Return
Domestic Equity	30%	28%	10.72%	11.20%	(0.13%)	(0.03%)	(0.16%)
Fixed-Income	17%	18%	5.84%	5.42%	0.06%	(0.08%)	(0.02%)
Real Assets	15%	16%	10.52%	11.08%	(0.12%)	(0.07%)	(0.19%)
International Equity	22%	23%	4.33%	4.33%	(0.01%)	(0.15%)	(0.16%)
Private Equity	9%	7%	14.07%	8.98%	0.36%	0.06%	0.42%
Absolute Return	5%	6%	2.69%	5.11%	(0.12%)	(0.01%)	(0.13%)
Cash Equiv	2%	2%	-	-	0.01%	0.04%	0.04%
Total			8.20%	8.39%	+ 0.06%	+ (0.25%)	(0.19%)

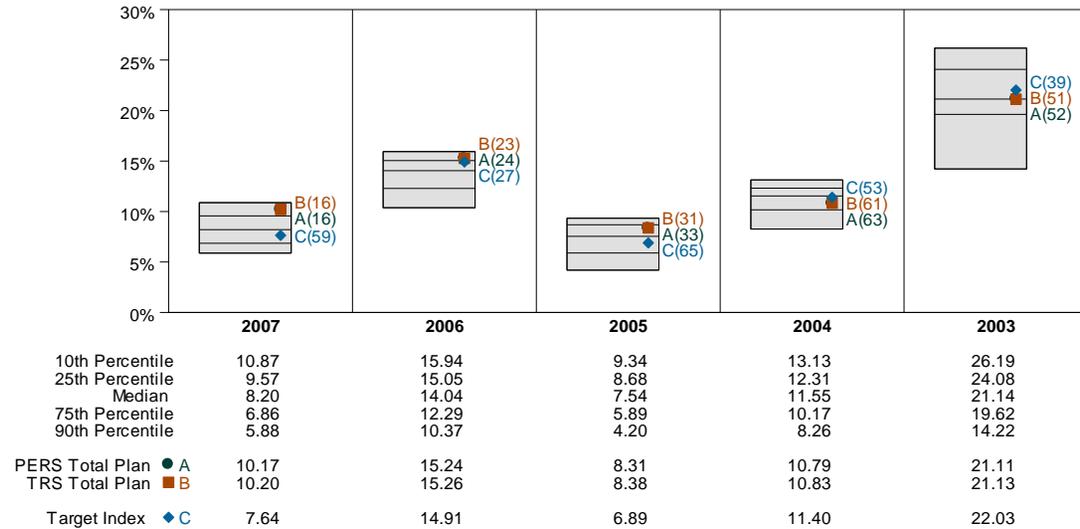
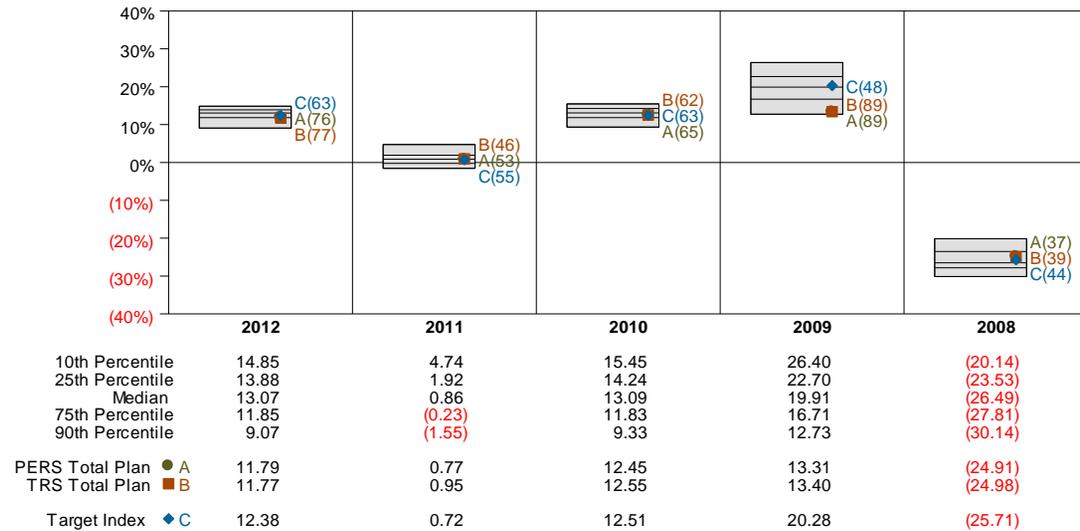
Cumulative Total Fund Returns



10th Percentile	2.60	7.84	14.85	7.95	10.11	
25th Percentile	2.16	7.37	13.88	7.38	9.45	
Median	1.83	6.71	13.07	6.84	8.88	
75th Percentile	1.30	5.94	11.85	6.14	8.22	
90th Percentile	0.79	4.51	9.07	5.53	7.33	
PERS Total Plan	● A	1.85	5.60	11.79	6.14	8.20
TRS Total Plan	■ B	1.86	5.64	11.77	6.22	8.29
Target Index	◆ C	2.27	6.87	12.38	6.39	8.39

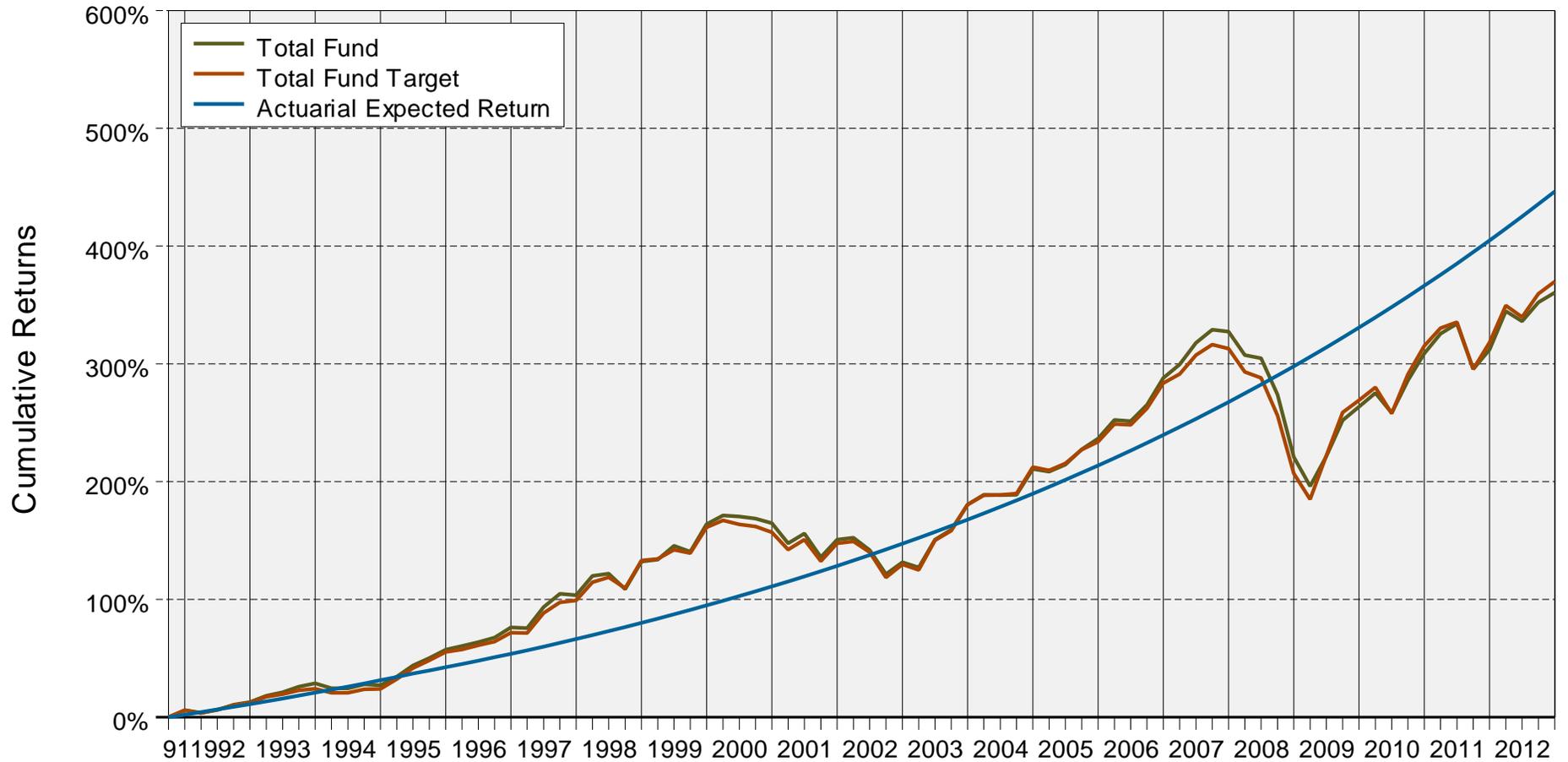
Calendar Period Performance

Relative to Public Fund Database



Long-term Return Relative to Target –TRS

Cumulative Returns Actual vs Target

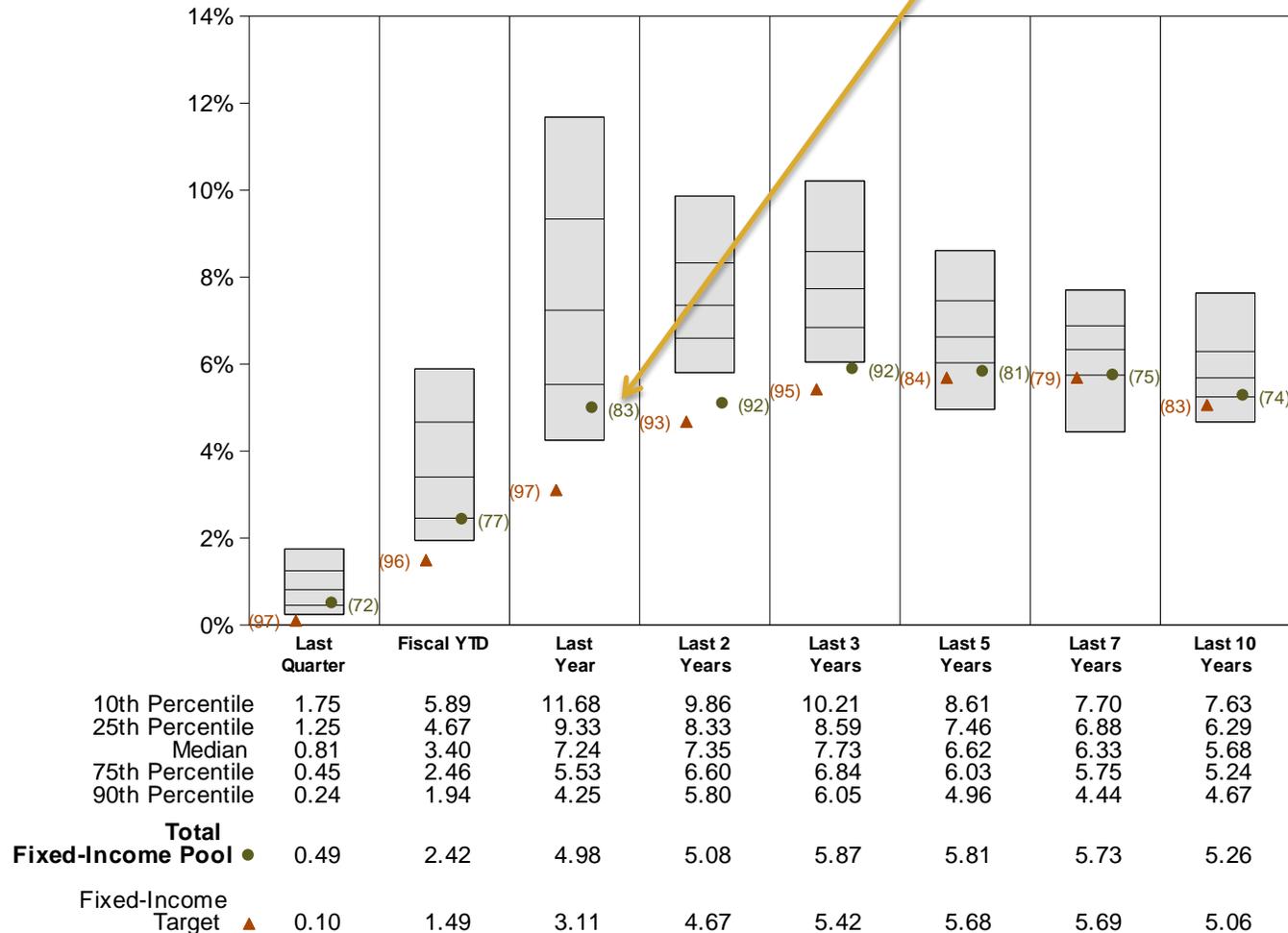


Total Bond Performance

Includes In-House and External Portfolios

Performance vs Public Fund - Domestic Fixed (Gross)

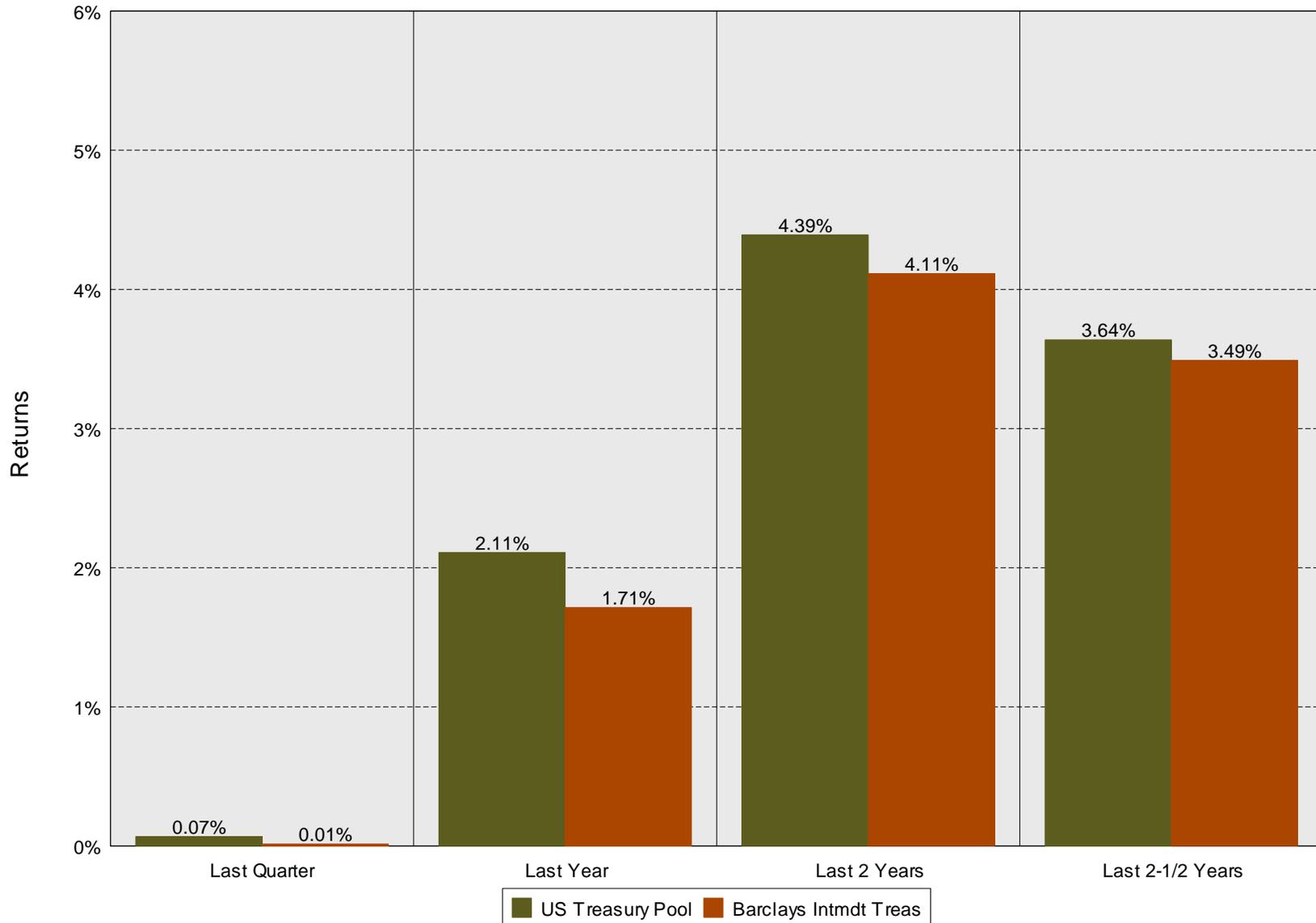
Focus on trailing 1-year return



- The Treasury component outpaced the Intermediate Treasury Index but Treasuries lagged credit sectors of the bond market. The Mondrian portfolio exceeded its custom non-\$ benchmark. McKay Shields posted the greatest return (14.78% vs. benchmark of 15.58%).

In-House Portfolio

Compared to BC Intermediate Treasury Index

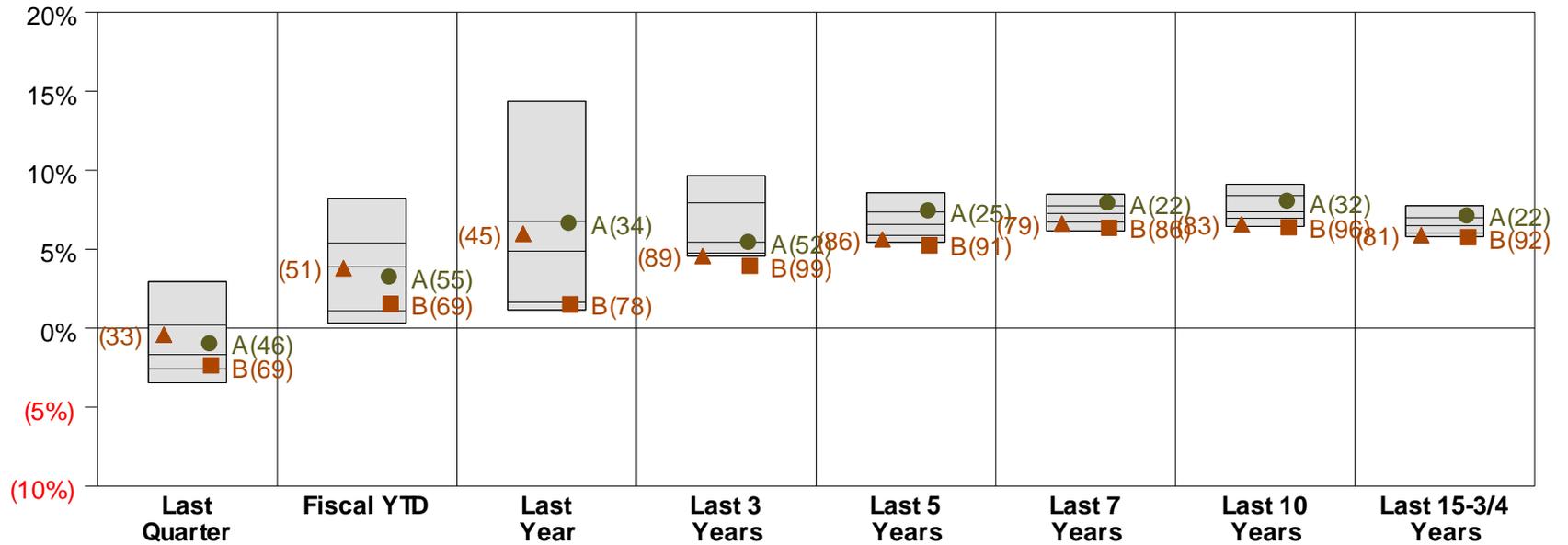


Non-US Fixed Income

Mondrian

Performance vs CAI Non-U.S. Fixed-Inc Style (Gross)

Consistently better than benchmark



	Last Quarter	Fiscal YTD	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years	Last 15-3/4 Years
10th Percentile	2.95	8.22	14.36	9.65	8.57	8.48	9.11	7.75
25th Percentile	0.21	5.38	6.76	7.93	7.35	7.74	8.39	6.99
Median	(1.67)	3.88	4.87	5.45	6.57	7.26	7.36	6.49
75th Percentile	(2.57)	1.09	1.64	4.75	5.87	6.71	6.96	6.02
90th Percentile	(3.46)	0.31	1.15	4.56	5.44	6.16	6.44	5.79

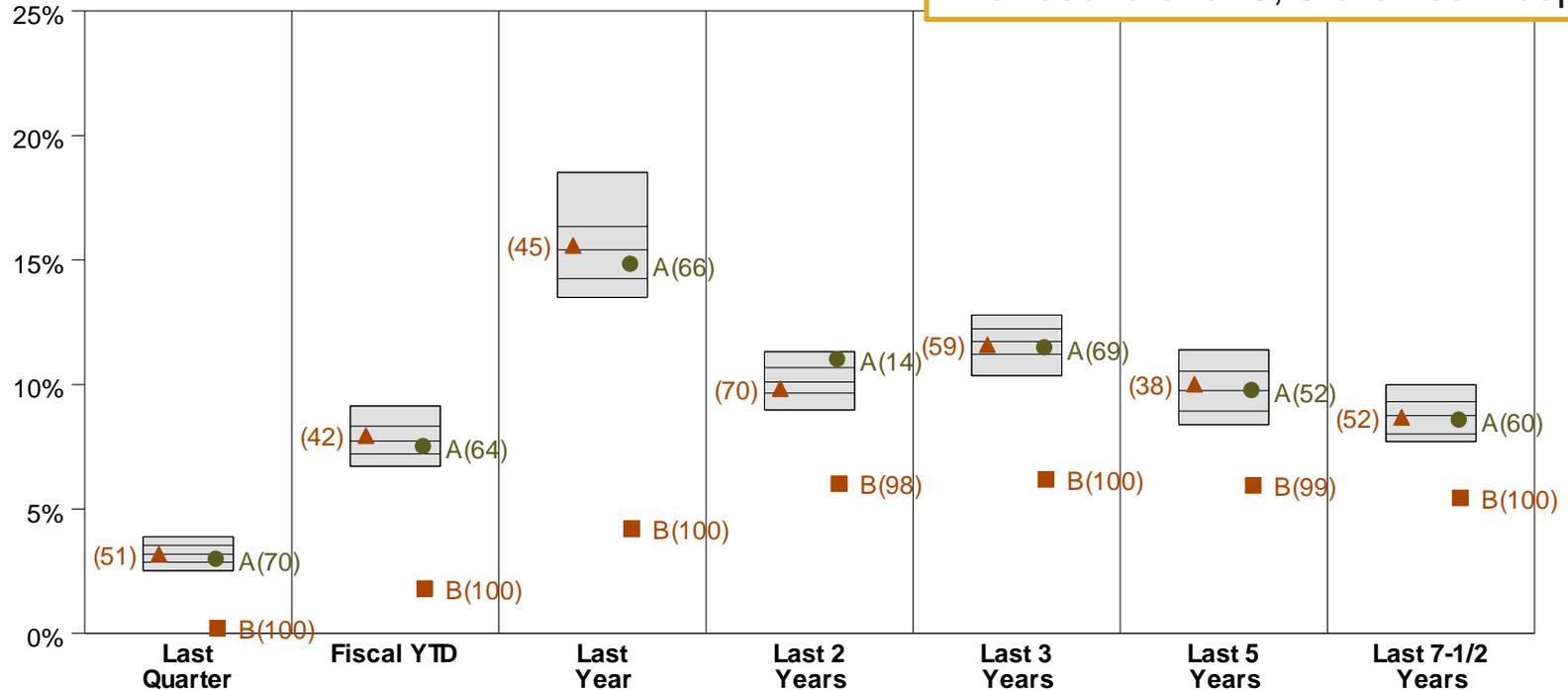
	Mondrian	Investment Partners	Citi WGBI Non-US Idx	Mondrian Benchmark
Last Quarter	A (1.07)	B (2.36)	(0.41)	
Fiscal YTD	3.16	1.53	3.80	
Last Year	6.57	1.51	5.98	
Last 3 Years	5.35	3.95	4.58	
Last 5 Years	7.34	5.24	5.62	
Last 7 Years	7.84	6.35	6.63	
Last 10 Years	7.96	6.38	6.58	
Last 15-3/4 Years	7.04	5.76	5.89	

High Yield Bonds

MackKay Shields

Performance vs CAI High Yield Fixed-Inc Style (Gross)

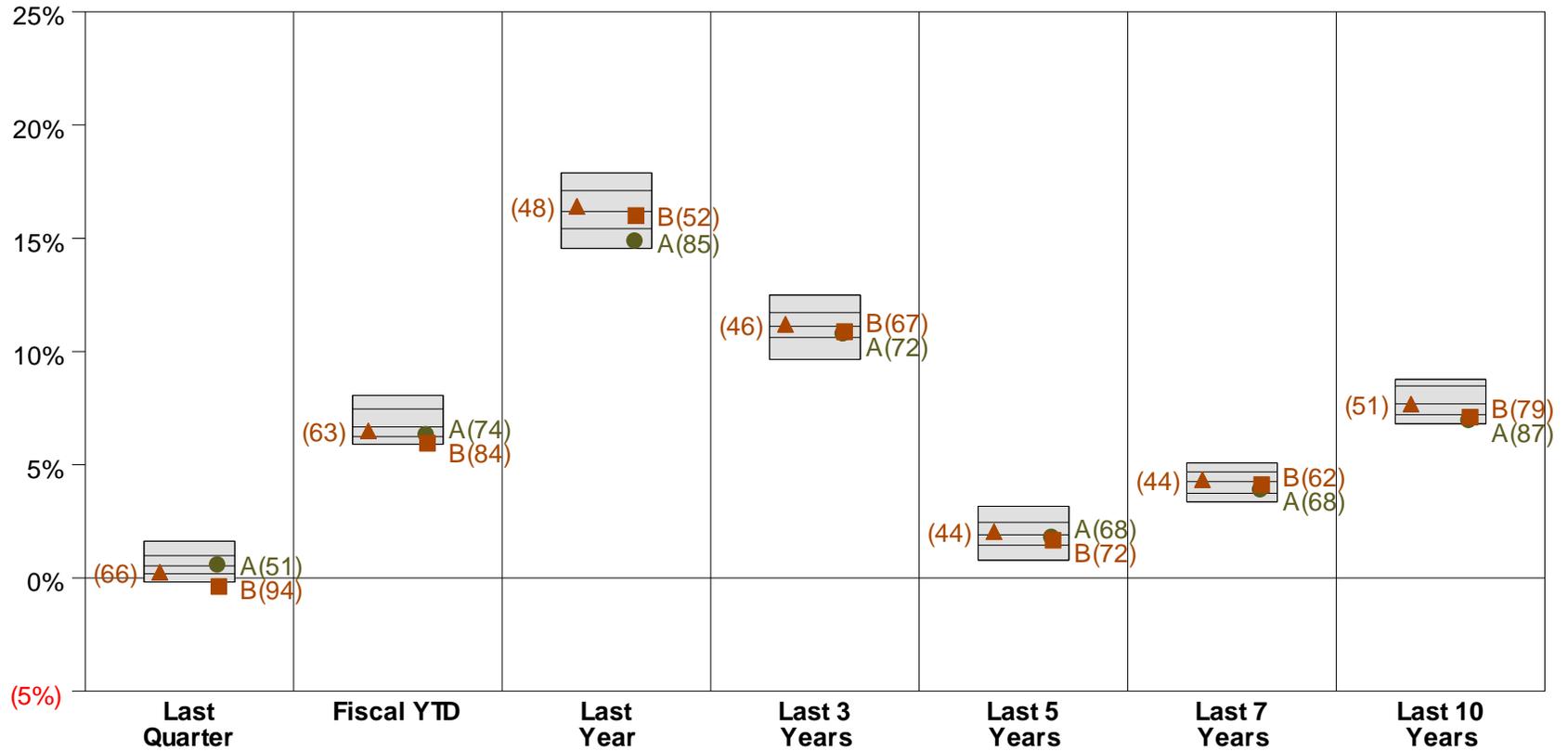
Strong absolute returns but benchmark like results over 3, 5 & since inception



	Last Quarter	Fiscal YTD	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 7-1/2 Years
10th Percentile	3.88	9.14	18.52	11.32	12.79	11.39	9.99
25th Percentile	3.54	8.32	16.34	10.67	12.23	10.53	9.31
Median	3.18	7.73	15.41	10.10	11.72	9.76	8.75
75th Percentile	2.87	7.21	14.25	9.65	11.22	8.93	8.01
90th Percentile	2.52	6.72	13.50	8.98	10.36	8.39	7.71
MackKay Shields	● A 2.93	7.45	14.78	10.95	11.42	9.71	8.51
BC Aggregate Index	■ B 0.21	1.80	4.21	6.01	6.19	5.95	5.45
High Yield Target	▲ 3.18	7.94	15.58	9.84	11.59	10.01	8.69

Total Domestic Equity

Performance vs Public Fund - Domestic Equity (Gross)

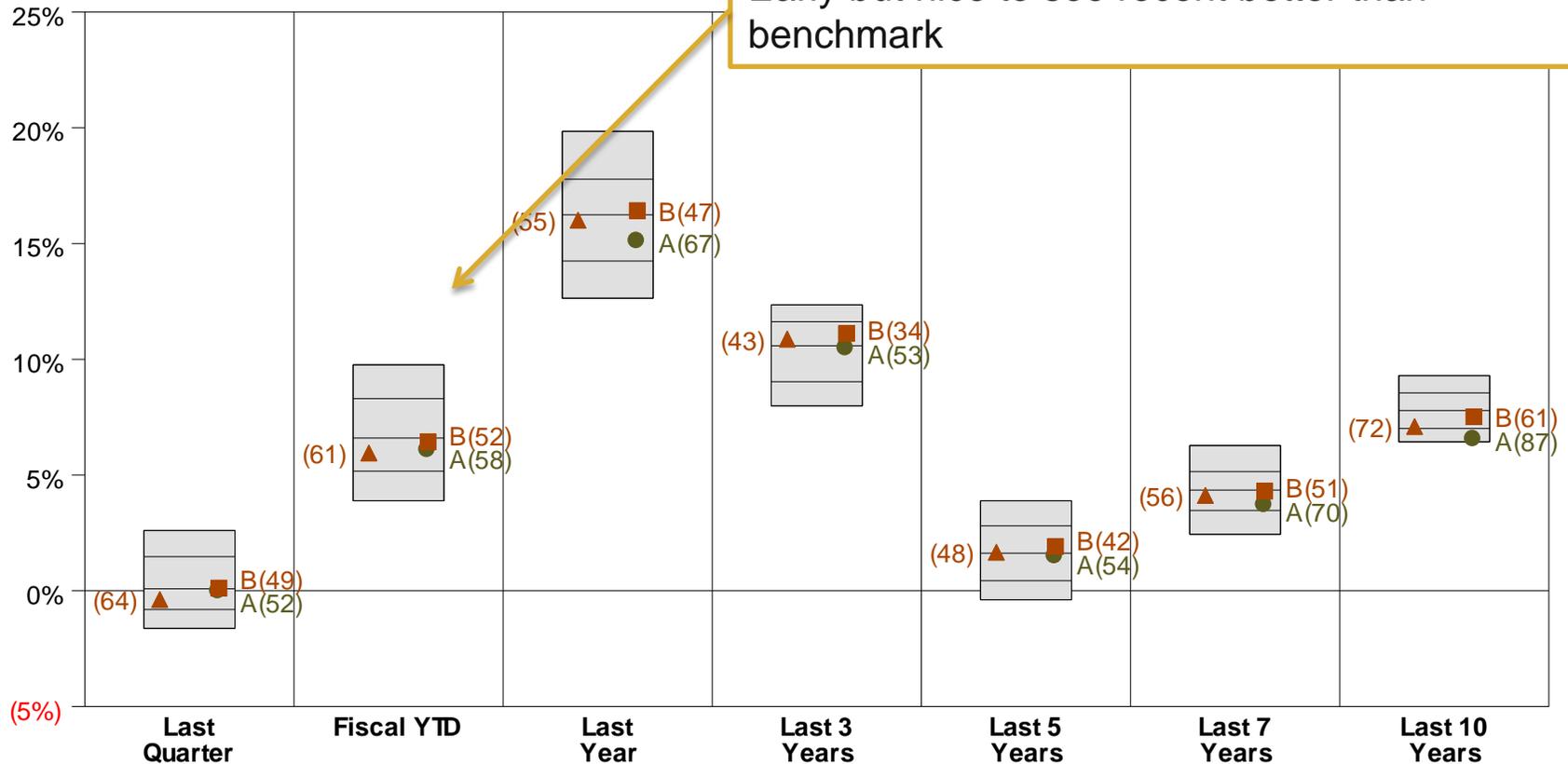


	Last Quarter	Fiscal YTD	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	1.62	8.06	17.89	12.49	3.17	5.08	8.77
25th Percentile	0.99	7.46	17.10	11.72	2.46	4.69	8.48
Median	0.54	6.67	16.18	11.11	1.91	4.26	7.69
75th Percentile	0.19	6.24	15.42	10.62	1.45	3.74	7.21
90th Percentile	(0.18)	5.90	14.55	9.65	0.79	3.36	6.81
Domestic Equity Pool & Poor's 500	● A	● A	● A	● A	● A	● A	● A
	■ B	■ B	■ B	■ B	■ B	■ B	■ B
Russell 3000 Index	▲	▲	▲	▲	▲	▲	▲

Large Cap Domestic Equity Pool

Performance vs CAI Large Capitalization Style (Gross)

Early but nice to see recent better than benchmark

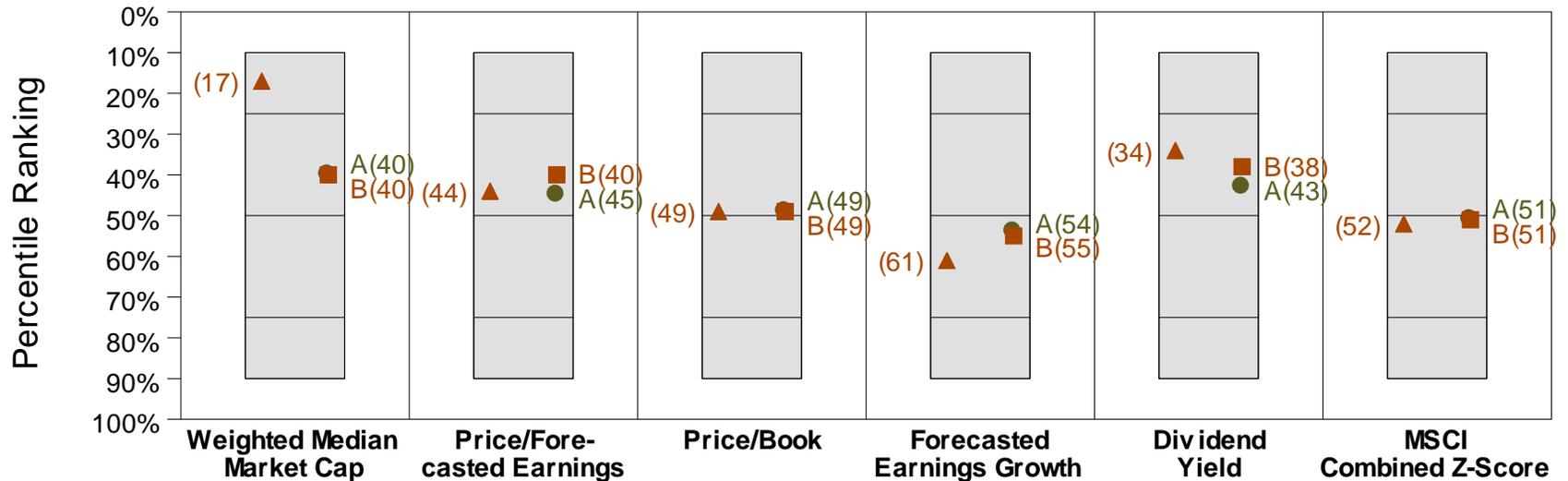


	Last Quarter	Fiscal YTD	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	2.61	9.76	19.84	12.35	3.89	6.28	9.29
25th Percentile	1.48	8.30	17.78	11.62	2.81	5.15	8.55
Median	0.09	6.60	16.24	10.59	1.62	4.35	7.79
75th Percentile	(0.81)	5.17	14.24	9.04	0.44	3.47	7.01
90th Percentile	(1.62)	3.89	12.63	7.99	(0.38)	2.44	6.44
Large Cap Pool ● A	(0.04)	6.05	15.08	10.45	1.47	3.68	6.52
Russell 1000 ■ B	0.12	6.44	16.42	11.12	1.92	4.30	7.52
S&P 500 Index ▲	(0.38)	5.95	16.00	10.87	1.66	4.12	7.10

Large Cap Total Equity Characteristics

Portfolio Characteristics Percentile Rankings
 Rankings Against CAI Large Capitalization Style
 as of December 31, 2012

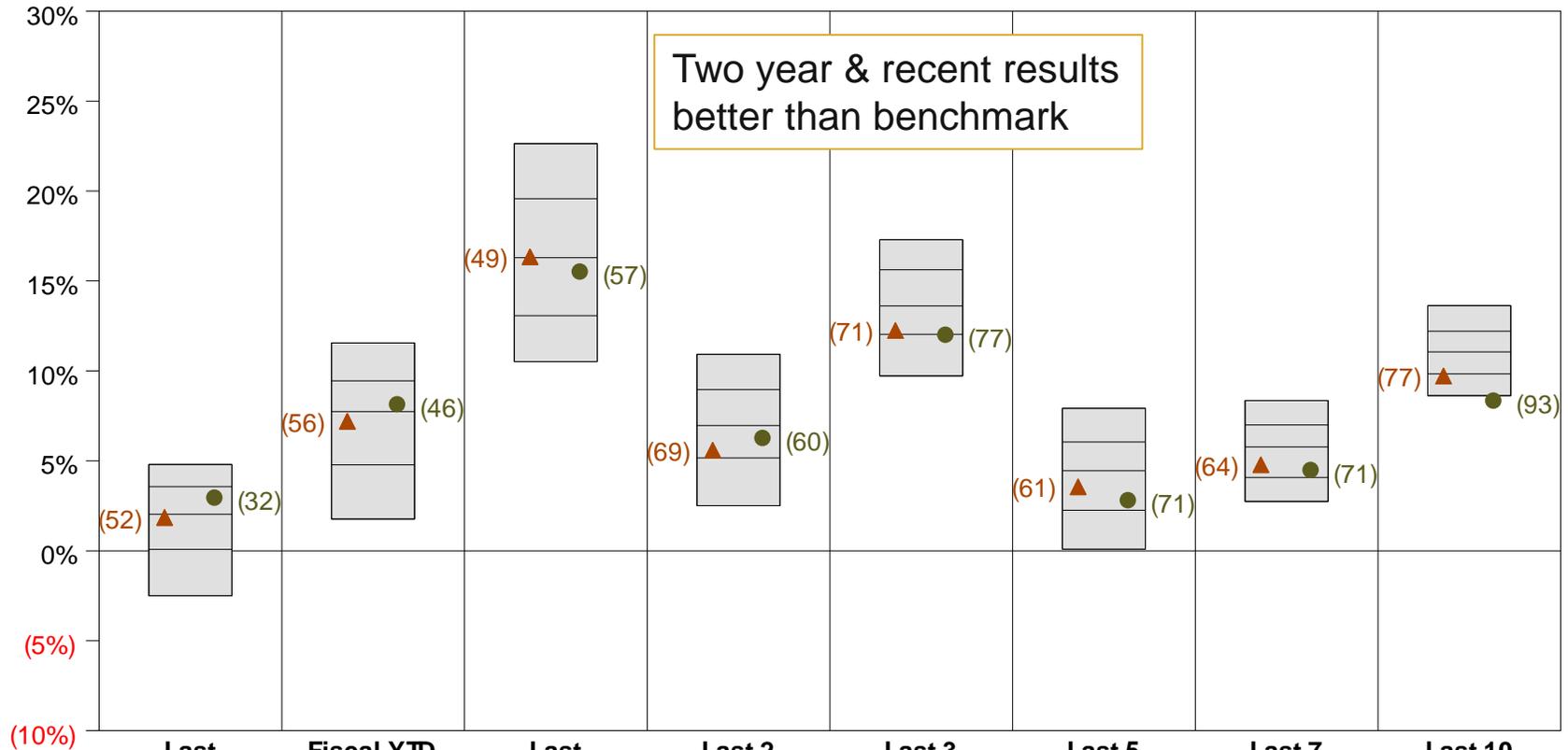
Very similar to Russell 1000
 No apparent style bias



	Weighted Median Market Cap	Price/Forecasted Earnings	Price/Book	Forecasted Earnings Growth	Dividend Yield	MSCI Combined Z-Score
10th Percentile	60.82	16.48	3.93	16.47	2.69	1.41
25th Percentile	53.04	14.31	3.26	14.07	2.40	0.87
Median	37.59	12.23	2.08	11.05	2.06	0.01
75th Percentile	30.83	11.19	1.59	8.93	1.44	(0.59)
90th Percentile	24.83	10.53	1.42	8.13	0.97	(0.79)
*Large Cap Pool ● A	42.18	12.48	2.09	10.68	2.15	(0.00)
Russell 1000 ■ B	41.86	12.97	2.09	10.62	2.19	(0.01)
S&P 500 Index ▲	55.82	12.63	2.09	10.32	2.29	(0.04)

Small Cap Pool

Performance vs CAI Small Capitalization Style (Gross)

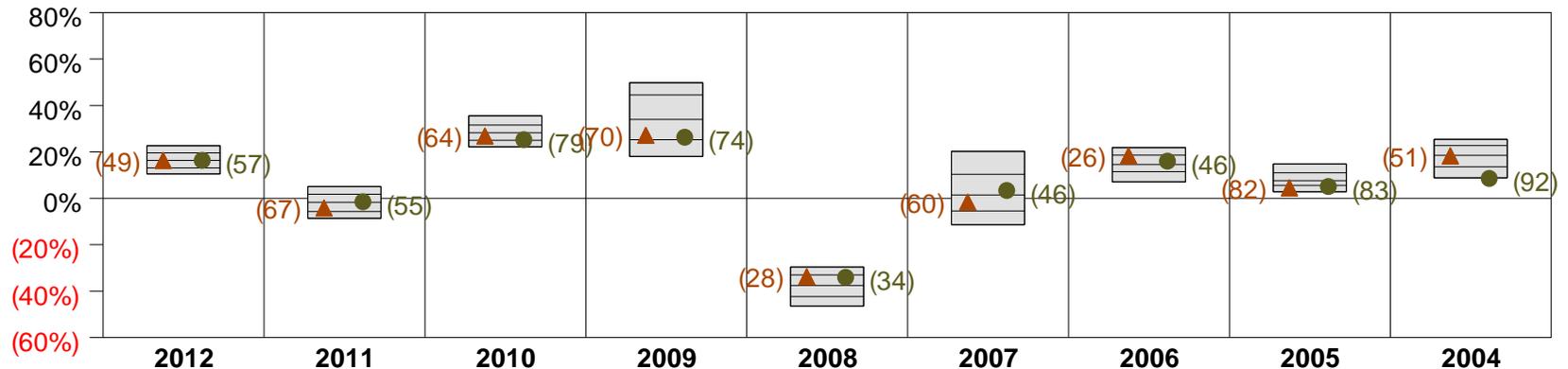


	Last Quarter	Fiscal YTD	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	4.80	11.55	22.64	10.93	17.29	7.92	8.34	13.63
25th Percentile	3.57	9.45	19.57	8.96	15.63	6.05	7.00	12.21
Median	2.03	7.73	16.30	6.96	13.61	4.46	5.77	11.06
75th Percentile	0.08	4.78	13.07	5.17	12.03	2.26	4.08	9.83
90th Percentile	(2.50)	1.76	10.52	2.51	9.72	0.09	2.75	8.62
Small Cap Pool ●	2.85	8.03	15.41	6.17	11.91	2.71	4.39	8.24
Russell 2000 Index ▲	1.85	7.20	16.35	5.59	12.25	3.56	4.79	9.72

Small Cap Performance

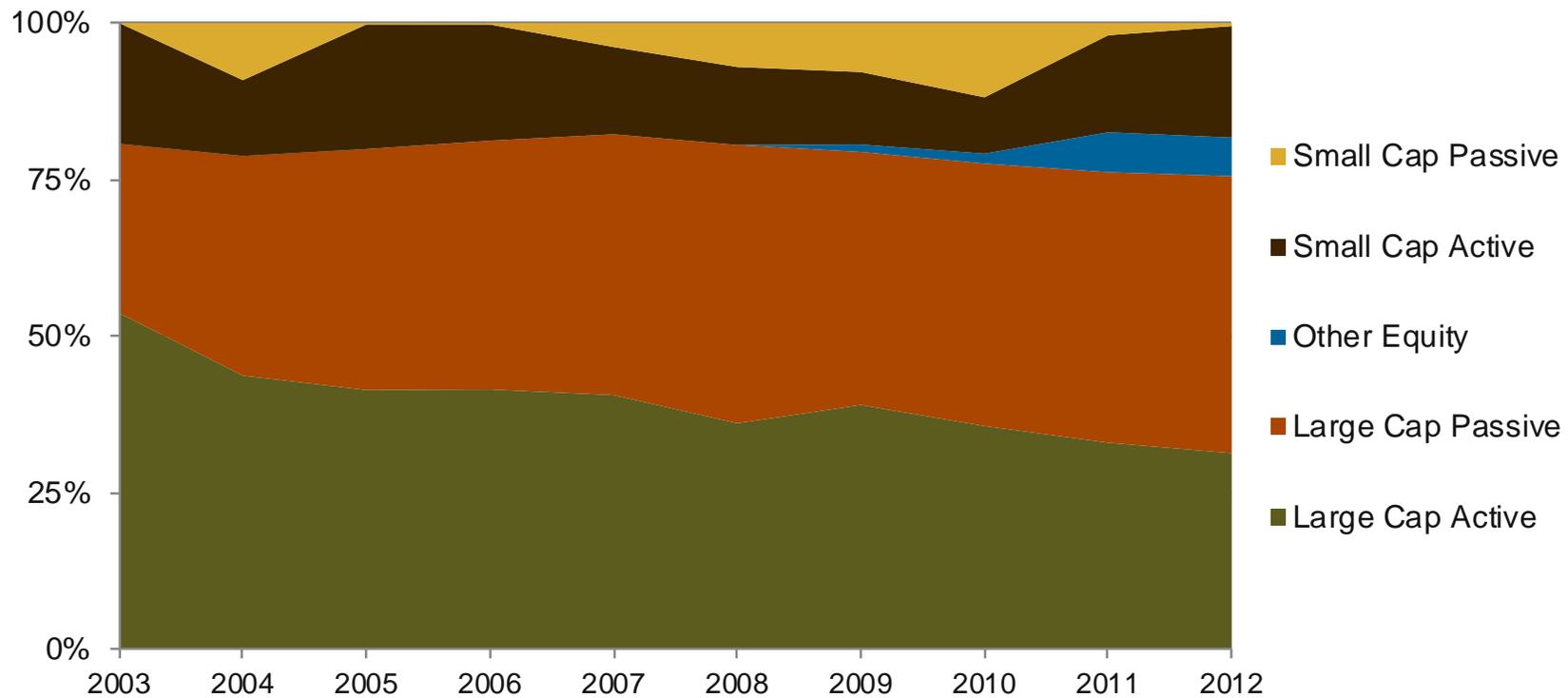
Calendar Periods

Performance vs CAI Small Capitalization Style (Gross)



	2012	2011	2010	2009	2008	2007	2006	2005	2004
10th Percentile	22.64	5.06	35.54	49.83	(29.58)	20.21	21.82	14.79	25.44
25th Percentile	19.57	1.78	31.53	44.57	(33.03)	10.32	18.62	10.97	22.73
Median	16.30	(1.76)	28.25	34.00	(37.57)	1.39	14.59	7.55	18.56
75th Percentile	13.07	(5.72)	24.99	25.24	(42.30)	(5.47)	11.44	5.55	13.61
90th Percentile	10.52	(8.64)	22.16	18.02	(46.48)	(11.41)	7.07	2.77	8.83
Small Cap Pool ●	15.41	(2.33)	24.35	25.40	(34.97)	2.53	15.24	4.28	7.65
Russell 2000 Index ▲	16.35	(4.18)	26.85	27.17	(33.79)	(1.57)	18.37	4.55	18.33

Equity Composite Allocation

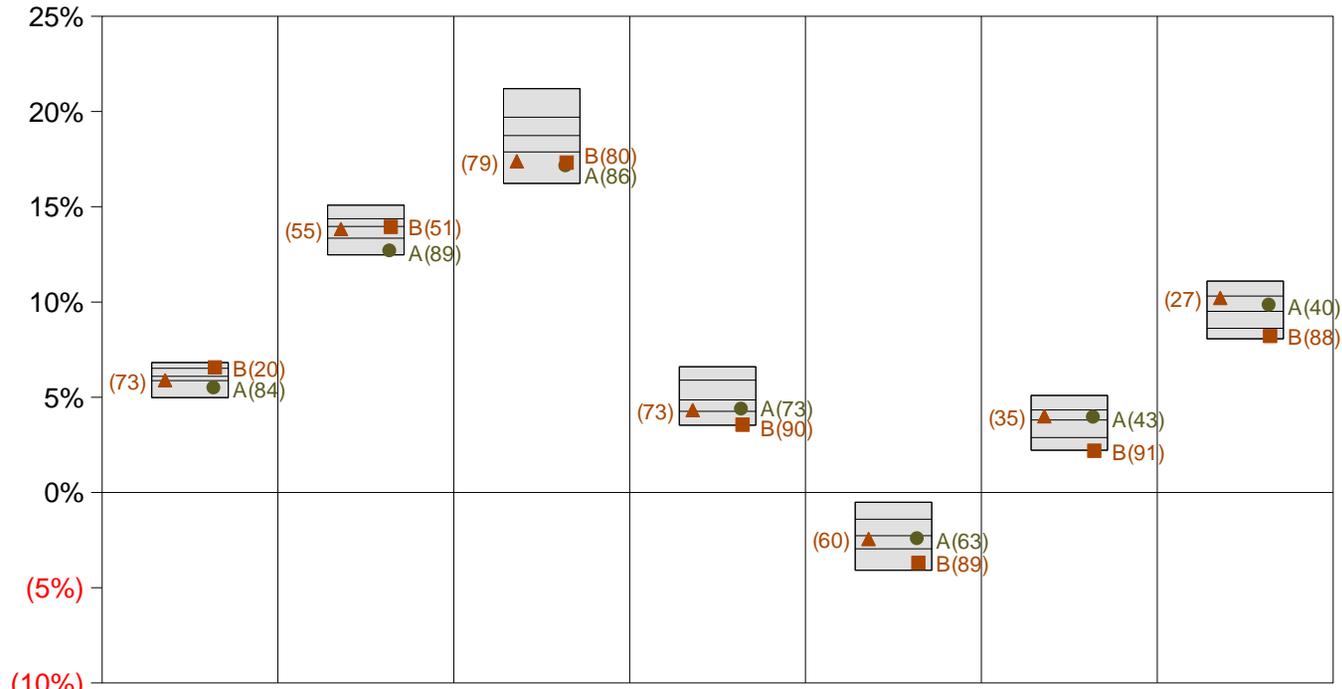


Composite	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Large Cap Active	53.7%	43.7%	41.4%	41.5%	40.6%	36.1%	39.0%	35.6%	33.0%	31.3%
Large Cap Passive	27.1%	35.1%	38.5%	39.7%	41.7%	44.5%	40.4%	41.9%	43.2%	44.3%
Other Equity	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.2%	1.6%	6.4%	6.2%
Small Cap Active	19.3%	12.1%	19.9%	18.5%	13.9%	12.4%	11.6%	9.0%	15.5%	17.8%
Small Cap Passive	0.0%	9.1%	0.2%	0.2%	3.8%	7.0%	7.8%	11.9%	2.0%	0.5%

International Equity

Compared to Other Public Funds

Performance vs Public Fund - International Equity (Gross)

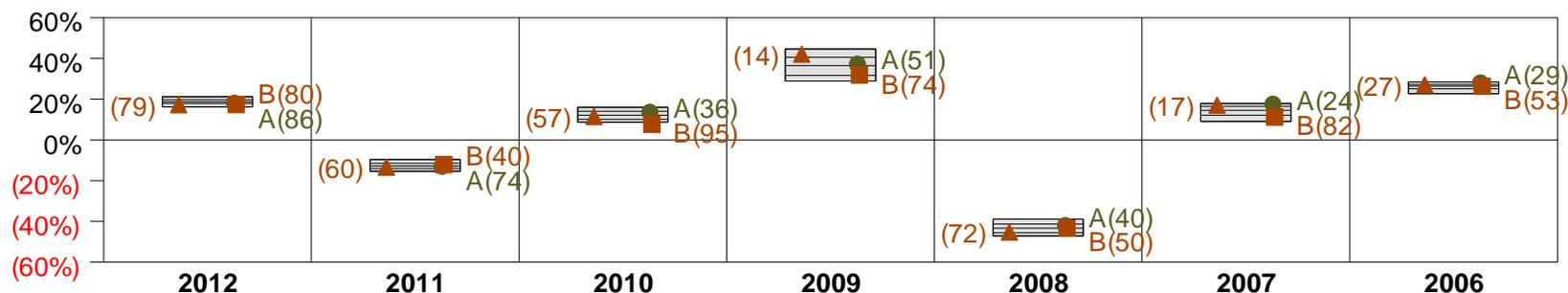


	Last Quarter	Fiscal YTD	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	6.82	15.08	21.20	6.60	(0.51)	5.10	11.10
25th Percentile	6.52	14.37	19.70	5.90	(1.40)	4.33	10.31
Median	6.10	13.97	18.74	4.86	(2.27)	3.81	9.51
75th Percentile	5.87	13.35	17.88	4.26	(2.96)	2.88	8.62
90th Percentile	4.98	12.48	16.23	3.53	(4.08)	2.22	8.07
Employ ees' Total Int'l Equity MSCI	● A						
EAFE Index	■ B						
MSCI ACWI ex US Index	▲						
	5.44	12.63	17.09	4.33	(2.48)	3.90	9.78
	6.57	13.95	17.32	3.56	(3.69)	2.19	8.21
	5.89	13.83	17.39	4.33	(2.44)	4.00	10.22

International

Calendar Periods

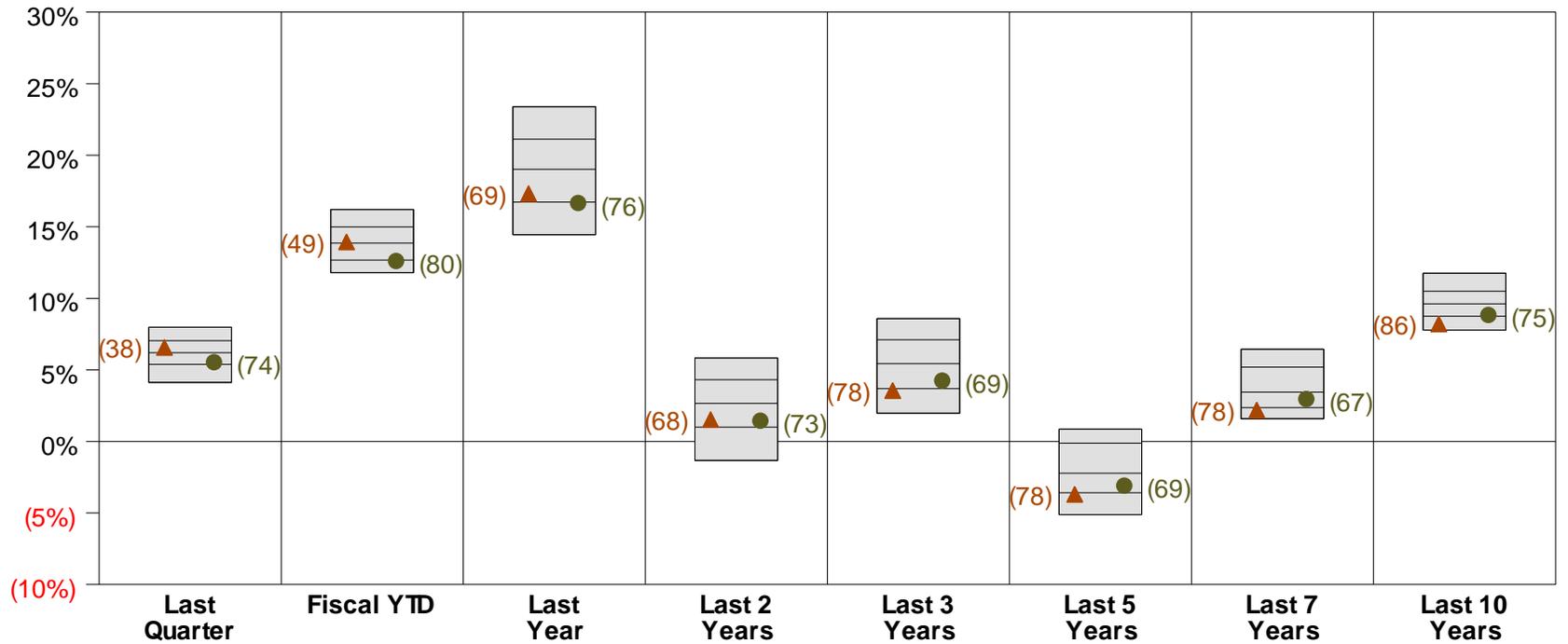
Performance vs Public Fund - International Equity (Gross)



	2012	2011	2010	2009	2008	2007	2006
10th Percentile	21.20	(9.63)	16.00	44.65	(38.84)	17.89	28.48
25th Percentile	19.70	(11.50)	14.07	40.56	(41.28)	16.50	27.22
Median	18.74	(12.72)	12.17	36.53	(43.30)	14.59	26.44
75th Percentile	17.88	(13.98)	10.09	31.65	(45.51)	12.13	25.15
90th Percentile	16.23	(15.33)	8.68	28.94	(47.15)	9.11	22.70
Total International Equity	17.09	(13.95)	12.70	36.35	(43.03)	16.61	27.06
MSCI EAFE Index	17.32	(12.14)	7.75	31.78	(43.38)	11.17	26.34
MSCI ACWI ex US Index	17.39	(13.33)	11.60	42.14	(45.24)	17.12	27.16

International ex EM Versus Managers

Performance vs CAI Non-U.S. Equity Style (Gross)

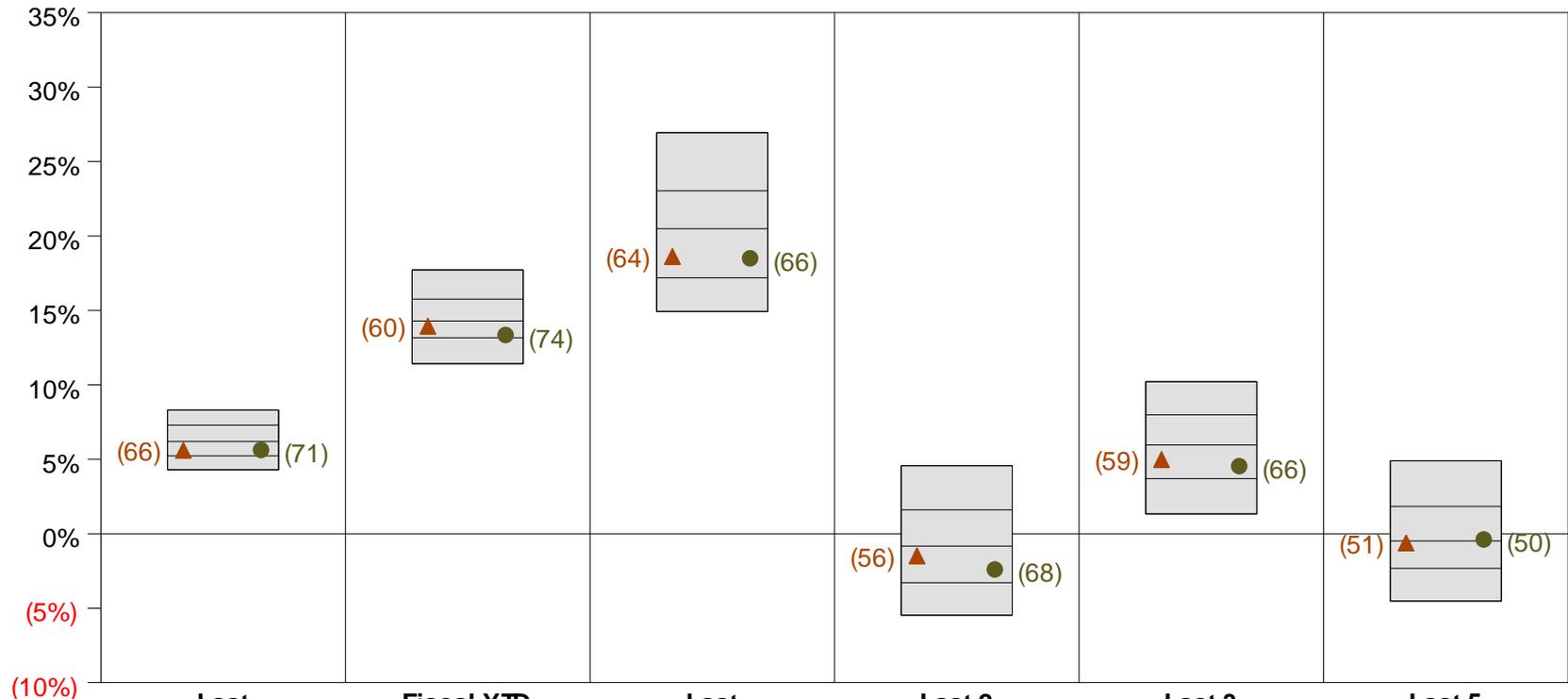


	Last Quarter	Fiscal YTD	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
10th Percentile	7.99	16.20	23.38	5.83	8.58	0.86	6.44	11.76
25th Percentile	7.05	15.00	21.12	4.32	7.10	(0.11)	5.19	10.50
Median	6.20	13.85	19.02	2.65	5.44	(2.22)	3.45	9.61
75th Percentile	5.38	12.68	16.73	1.01	3.69	(3.58)	2.37	8.75
90th Percentile	4.12	11.80	14.45	(1.33)	1.97	(5.11)	1.59	7.78

	Last Quarter	Fiscal YTD	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years
Int'l Equity Pool (ex Emerging Mkt)	5.43	12.50	16.53	1.32	4.12	(3.21)	2.84	8.71
MSCI EAFE Index	6.57	13.95	17.32	1.53	3.56	(3.69)	2.19	8.21

Emerging Markets Pool

Performance vs CAI Emerging Markets Equity DB (Gross)



	Last Quarter	Fiscal YTD	Last Year	Last 2 Years	Last 3 Years	Last 5 Years
10th Percentile	8.32	17.72	26.94	4.56	10.22	4.90
25th Percentile	7.30	15.76	23.04	1.60	7.99	1.83
Median	6.20	14.29	20.48	(0.83)	5.96	(0.49)
75th Percentile	5.23	13.16	17.19	(3.29)	3.70	(2.32)
90th Percentile	4.30	11.42	14.93	(5.48)	1.33	(4.52)
Emerging Markets Pool ●	5.49	13.22	18.38	(2.52)	4.42	(0.51)
MSCI Emerging Mkts Idx ▲	5.61	13.94	18.63	(1.48)	4.98	(0.61)

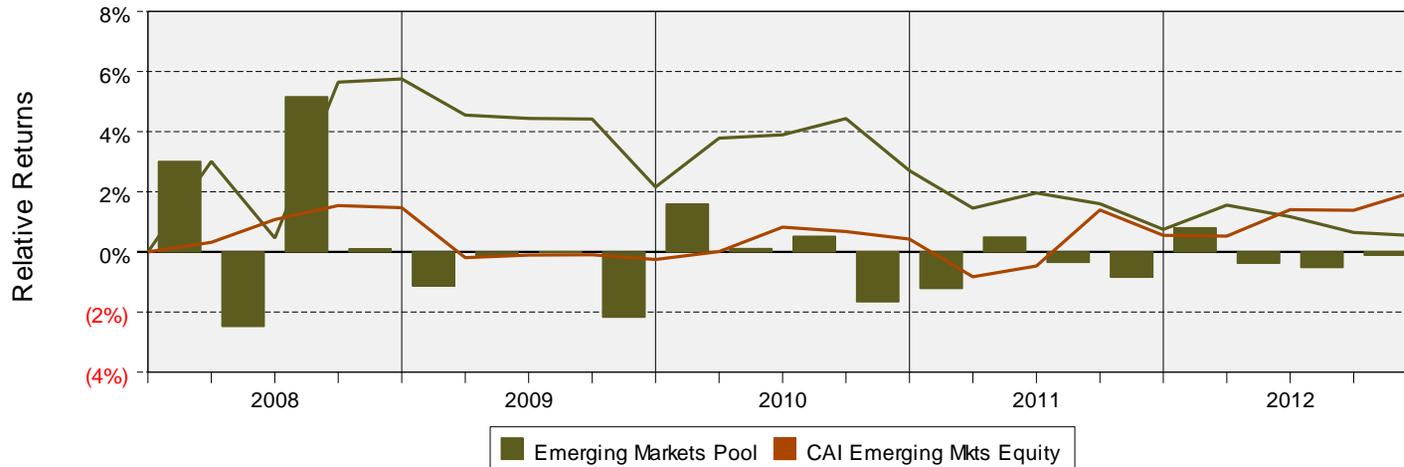
Emerging Markets Pool

Calendar Periods

Performance vs CAI Emerging Markets Equity DB (Gross)



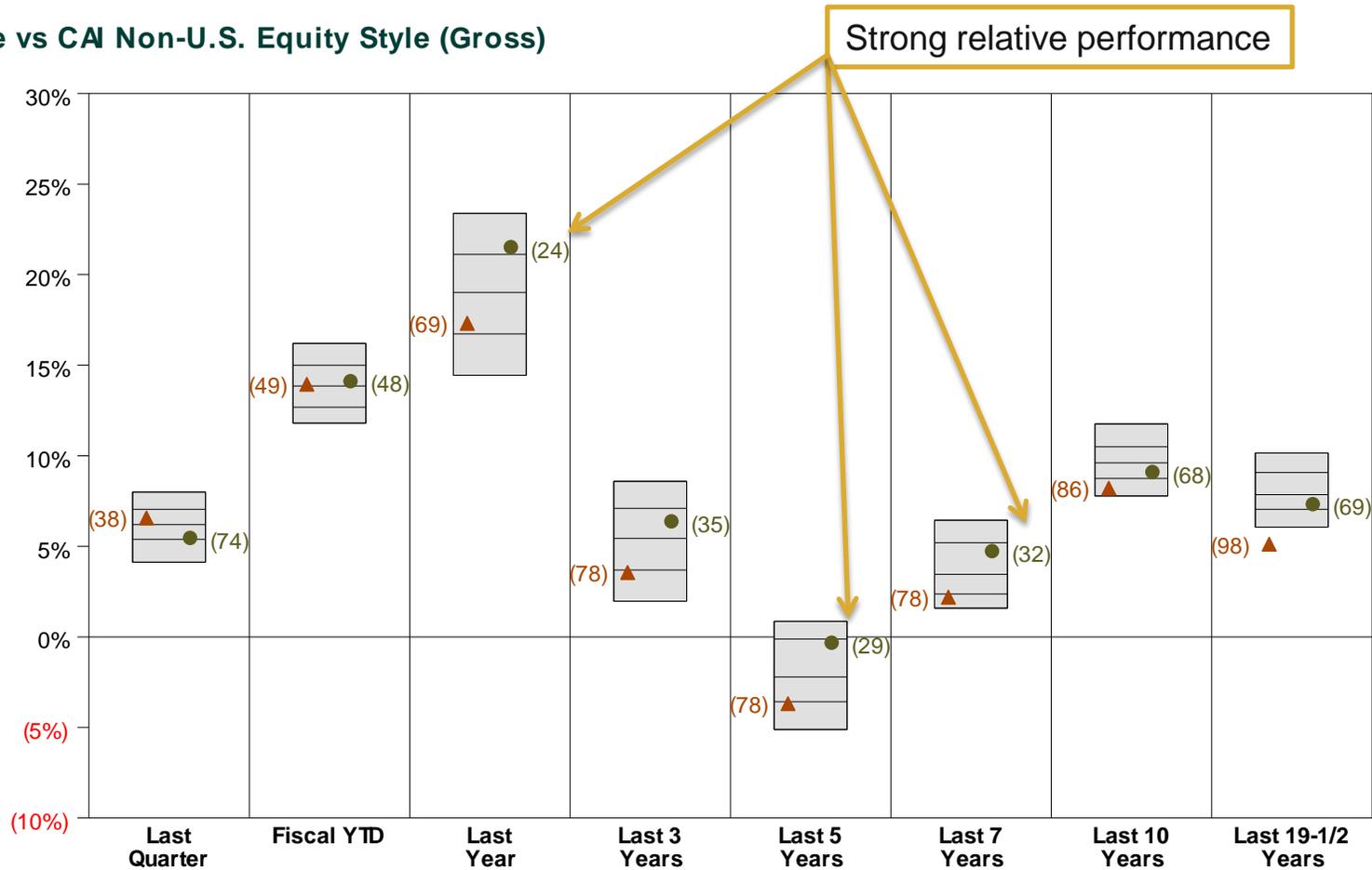
Cumulative and Quarterly Relative Return vs MSCI Emerging Mkts Idx



Global

Lazard

Performance vs CAI Non-U.S. Equity Style (Gross)



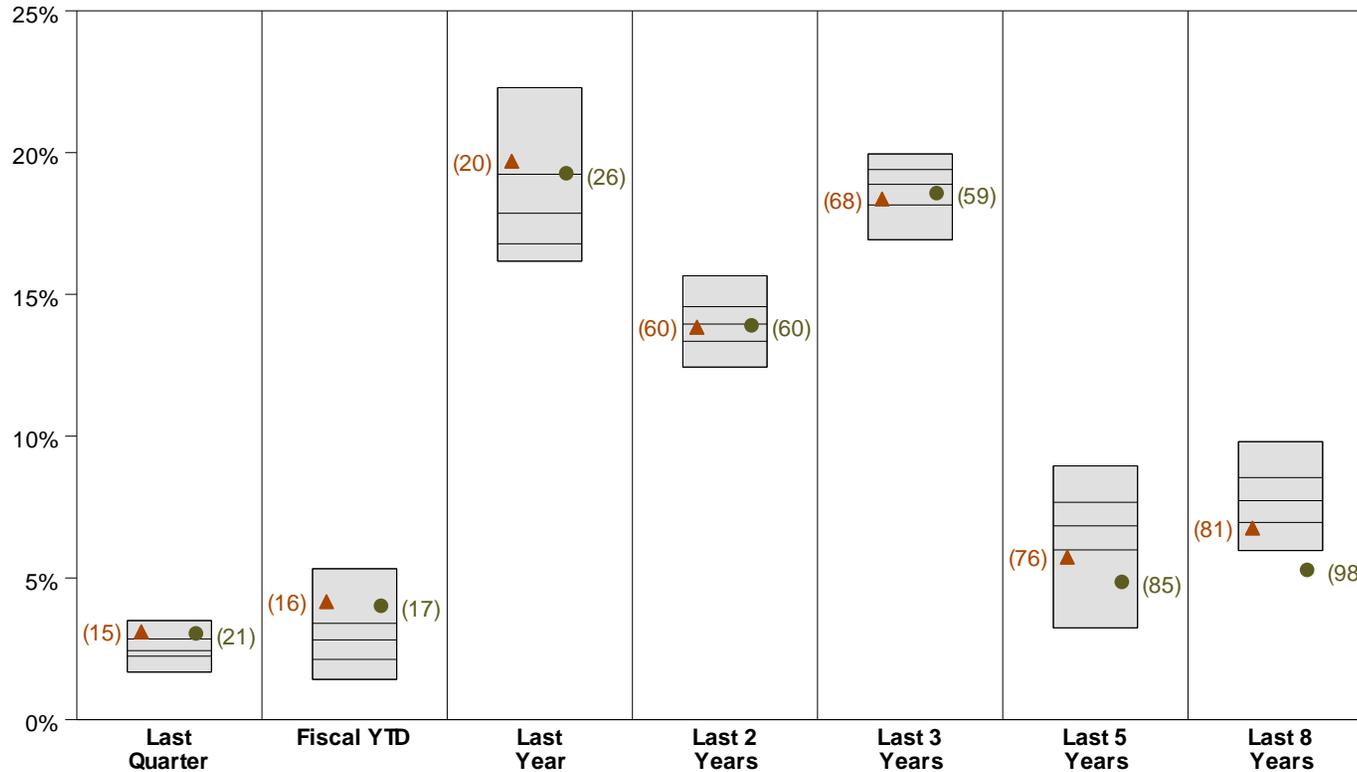
Real Assets Category

	Last Quarter	Fiscal YTD	Last Year	Last 3 Years	Last 5 Years	
Real Assets(Prelim)	1.04%	2.41%	9.48%	10.41%	-	
Real Assets Target (1)	3.21%	5.37%	10.36%	11.07%	4.30%	
Real Estate Pool	1.57%	3.34%	9.55%	12.25%	(2.95%)	RE trailed target
Real Estate Target (2)	2.60%	4.86%	11.46%	13.32%	2.99%	
NCREIF Total Index	2.54%	4.94%	10.54%	12.63%	2.13%	
REIT Internal Portfolio	2.99%	3.96%	19.21%	18.52%	4.80%	
NAREIT Equity Index	3.11%	4.17%	19.70%	18.37%	5.74%	
Total Farmland	1.10%	1.75%	15.27%	10.18%	9.83%	
UBS Agrivest	1.10%	1.68%	15.97%	10.37%	10.08%	
Hancock Agricultural	1.10%	1.85%	14.15%	9.99%	9.98%	Timber trailed target
ARMB Farmland Target (3)	6.66%	8.66%	17.33%	13.24%	12.06%	
Total Timber	0.53%	1.25%	2.09%	1.92%	-	
Timberland Investment Resources	0.91%	2.11%	3.10%	0.54%	-	
Hancock Timber	(0.19%)	(0.35%)	0.26%	4.45%	-	
NCREIF Timberland Index	5.92%	6.72%	7.76%	3.00%	2.65%	
TIPS Internal Portfolio	0.62%	2.82%	7.03%	9.28%	7.20%	TIPS better than target
BC US TIPS Index	0.69%	2.82%	6.98%	8.90%	7.04%	
Total Energy Funds *	(0.70%)	0.34%	1.30%	7.25%	8.15%	
CPI + 5%	0.26%	2.41%	6.68%	7.19%	6.89%	

*Please note that real estate returns are provided by ARMB's real estate consultant

REIT Portfolio

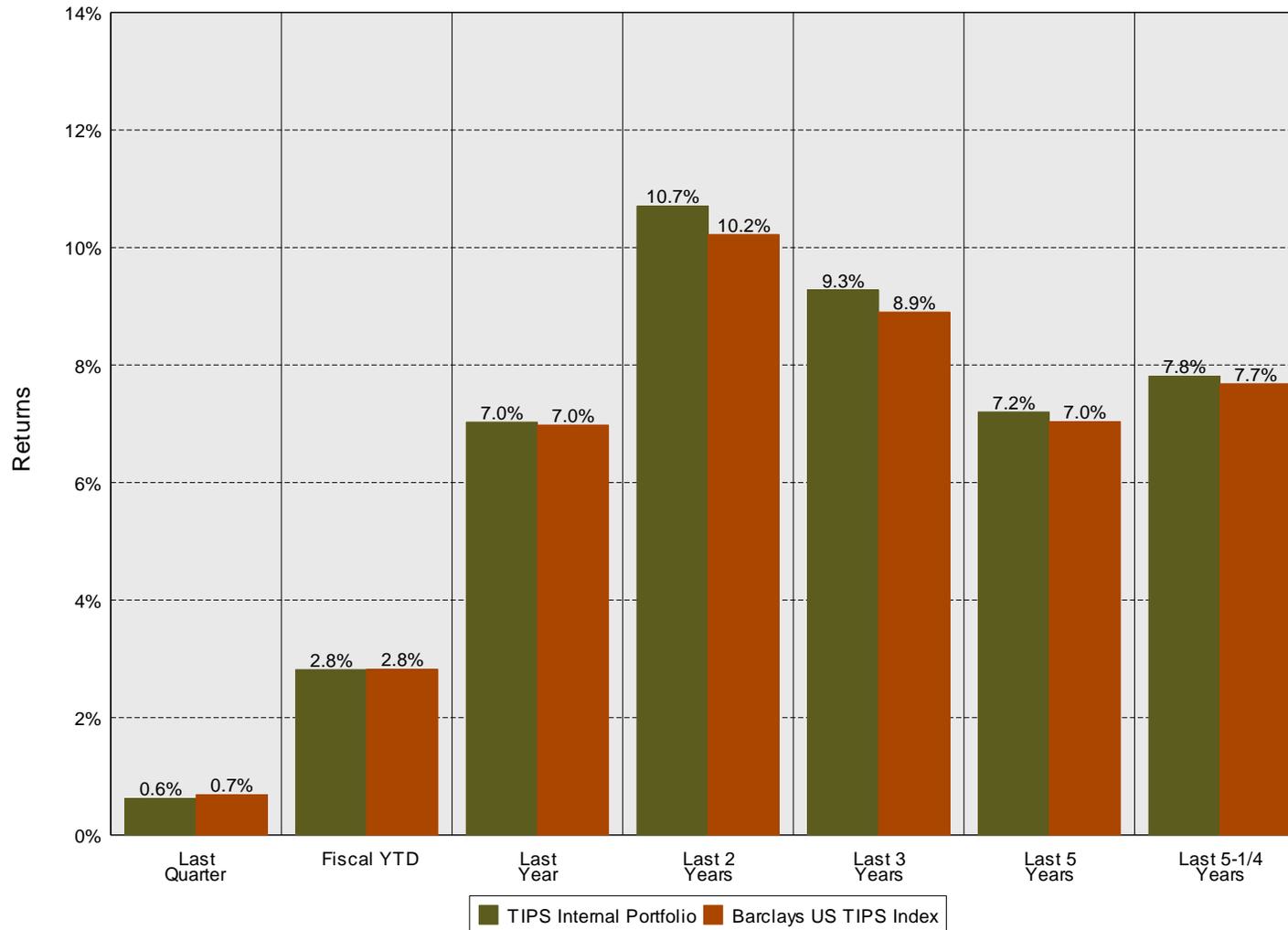
Performance vs CAI Real Estate-REIT DB (Gross)



10th Percentile	3.50	5.32	22.29	15.66	19.95	8.95	9.81
25th Percentile	2.85	3.40	19.24	14.57	19.40	7.67	8.54
Median	2.44	2.82	17.86	13.95	18.88	6.84	7.72
75th Percentile	2.24	2.13	16.79	13.34	18.16	5.99	6.96
90th Percentile	1.68	1.42	16.17	12.44	16.93	3.24	5.97

- Near index returns in the quarter
- Index like performance over the last 1-, 2-, and 3-year periods

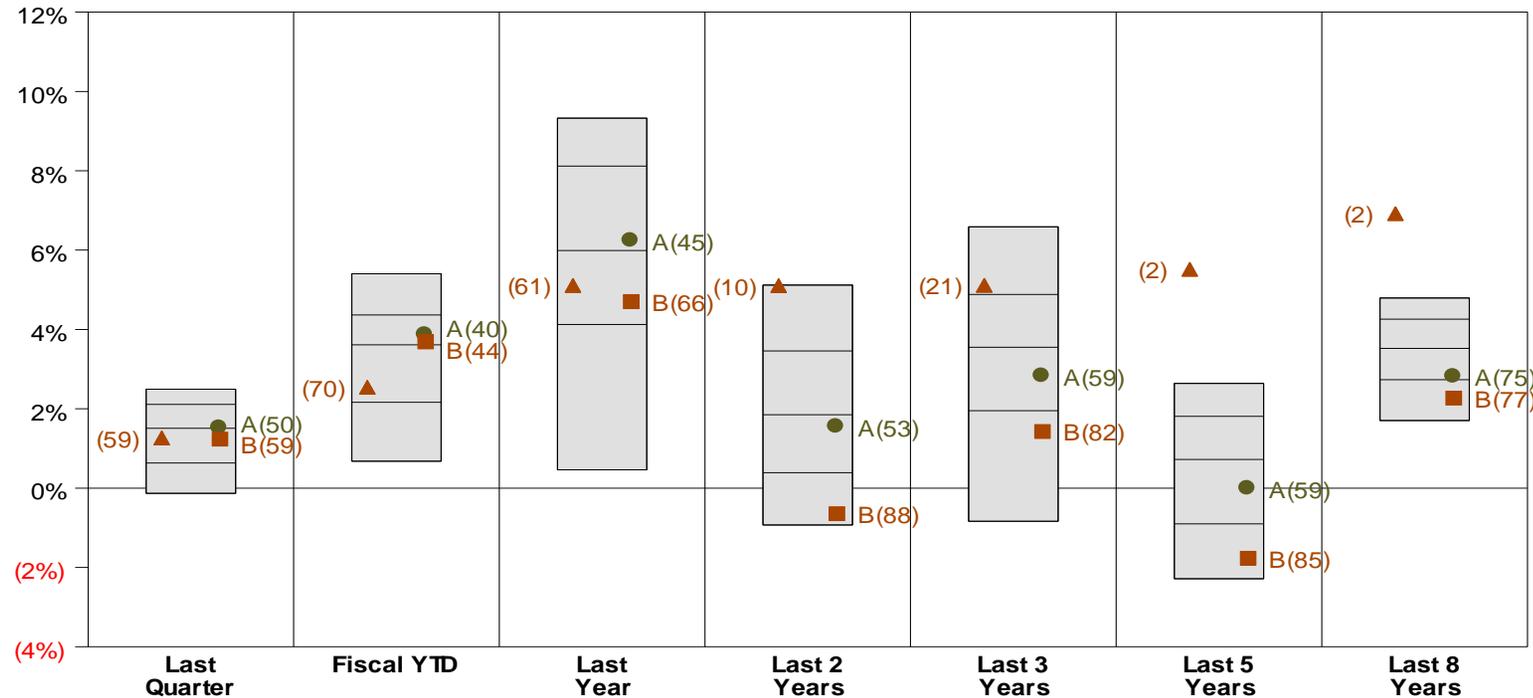
Internally Managed TIPS Portfolio



- Index+ performance over longer-term periods at minimal cost

Absolute Return Composite

Performance vs Absolute Return Hedge FoFs Style (Net)



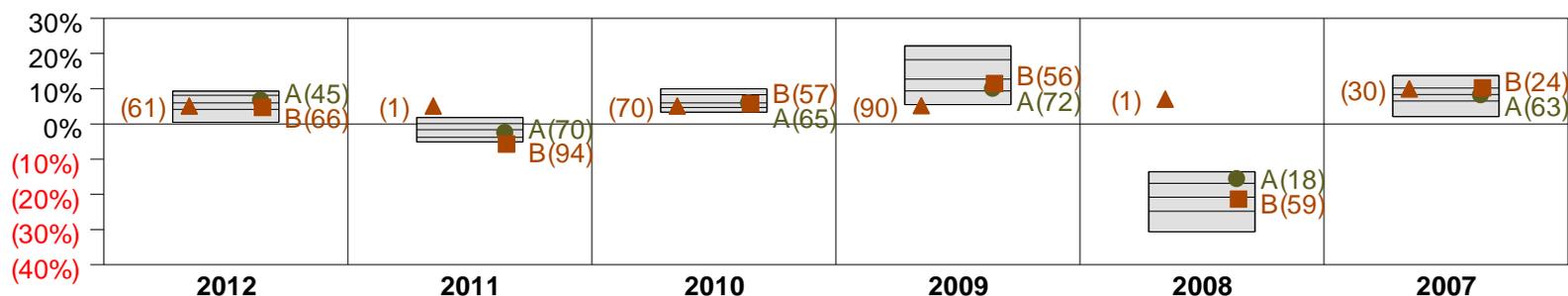
	Last Quarter	Fiscal YTD	Last Year	Last 2 Years	Last 3 Years	Last 5 Years	Last 8 Years
10th Percentile	2.49	5.41	9.33	5.12	6.59	2.64	4.79
25th Percentile	2.11	4.36	8.12	3.46	4.88	1.81	4.26
Median	1.51	3.61	5.99	1.85	3.55	0.72	3.52
75th Percentile	0.63	2.16	4.12	0.39	1.95	(0.90)	2.73
90th Percentile	(0.13)	0.68	0.46	(0.93)	(0.84)	(2.28)	1.71

Absolute Return Composite	A	1.51	3.86	6.23	1.54	2.82	(0.02)	2.81
HFRI Fund of Funds Compos	B	1.24	3.69	4.70	(0.64)	1.43	(1.77)	2.27
T-Bills + 5%	▲	1.27	2.54	5.11	5.11	5.11	5.52	6.92

Reflects December 31 values, while SS data used to calculate total fund is lagged 1-month SS return for trailing 12 months was negative 1.30%. Dropped relatively poor month & gained relatively good month. Plan returns & accounting use SS numbers.

Absolute Return – Calendar Periods

Performance vs Absolute Return Hedge FoFs Style (Net)



	2012	2011	2010	2009	2008	2007
10th Percentile	9.33	1.82	9.99	22.16	(13.57)	13.74
25th Percentile	8.12	0.10	8.30	18.25	(16.88)	10.18
Median	5.99	(1.65)	5.98	12.75	(20.81)	8.37
75th Percentile	4.12	(3.81)	4.70	9.36	(24.82)	6.51
90th Percentile	0.46	(5.09)	3.33	5.48	(30.63)	2.11
Absolute Return Composite HFRI Fund of Funds Compos						
● A	6.23	(2.93)	5.43	9.55	(16.10)	7.68
■ B	4.70	(5.72)	5.70	11.47	(21.37)	10.25
T-Bills + 5%	5.11	5.10	5.13	5.21	7.06	10.00

Individual Account Option Performance

Balanced & Target Date Funds

Investment Manager	Market Value (\$mm)	Last Quarter Return	Last Year Return	3 Year Return	5 Year Return	7 Year Return	5 Year Risk	5 Year Risk Quadrant	5 Year Excess Rtn Ratio	3 Year Tracking Error	5 Year Sharpe Ratio
Balanced & Target Date Funds											
Alaska Balanced Fund	\$1,131	0.7 ⁴⁷	9.0 ⁹⁵	7.8 ⁶¹	4.8 ³	5.6 ¹³	8.1 ⁹⁹		0.1 ¹	0.5 ¹⁰⁰	0.5 ¹
CAI M Fd: Dom Bal Style											
Passive Target		0.7 ⁵¹	8.5 ⁹⁶	7.7 ⁶³	4.7 ⁴	5.5 ¹³	7.6 ⁹⁹				0.5 ¹
Long Term Balanced Fund	\$441	1.1 ³⁷	12.1 ⁵¹	8.7 ⁴³	3.6 ²⁵	5.1 ²⁰	13.8 ⁸⁶		-0.0 ²⁵	0.4 ¹⁰⁰	0.2 ¹⁸
CAI M Fd: Dom Bal Style											
Passive Target		1.0 ³⁸	11.7 ⁶⁰	8.7 ⁴⁴	3.6 ²⁵	5.1 ²¹	13.4 ⁹⁰				0.2 ¹⁷
Target 2010 Trust	\$10	0.9 ⁸¹	10.3 ⁴⁷	7.8 ³⁸						0.2 ¹⁰⁰	
CAI Tgt Date 2010											
Custom Index		0.8 ⁸⁷	10.3 ⁴⁸	7.8 ³⁸							
Target 2015 Trust	\$101	1.0 ⁷¹	11.7 ²⁸	8.4 ¹⁴	5.1 ¹	6.0 ¹	11.3 ⁸⁰		0.6 ¹	0.3 ¹⁰⁰	0.4 ²
CAI Tgt Date 2015											
Custom Index		1.0 ⁷²	11.7 ²⁸	8.3 ²⁰	4.8 ¹	5.8 ¹	11.5 ⁸⁰				0.4 ²
Target 2020 Trust	\$54	1.3 ⁵⁸	13.0 ²⁹	8.9 ¹³	2.6 ²⁸	4.8 ¹¹	16.0 ⁵⁴		0.2 ⁵	0.3 ¹⁰⁰	0.1 ³¹
CAI Tgt Date 2020											
Custom Index		1.1 ⁷⁰	12.8 ³⁰	8.9 ¹³	2.5 ³³	4.7 ¹³	16.1 ⁴⁶				0.1 ³³
Target 2025 Trust	\$38	1.4 ⁶³	13.9 ³³	9.2 ⁶	1.6 ⁵²	4.0 ²⁹	18.9 ³⁶		0.2 ²⁵	0.3 ¹⁰⁰	0.1 ⁵³
CAI Tgt Date 2025											
Custom Index		1.2 ⁷⁰	13.9 ³⁴	9.3 ⁴	1.5 ⁵³	4.0 ³⁰	19.1 ³¹				0.1 ⁵³
Target 2030 Trust	\$24	1.5 ⁶⁵	14.8 ²⁹	9.4 ⁹						0.3 ¹⁰⁰	
CAI Tgt Date 2030											
Custom Index		1.3 ⁷¹	14.7 ³³	9.4 ⁹							
Target 2035 Trust	\$26	1.6 ⁶⁴	15.5 ³³	9.5 ²						0.3 ¹⁰⁰	
CAI Tgt Date 2035											
Custom Index		1.3 ⁷¹	15.3 ³⁸	9.5 ²							
Target 2040 Trust	\$30	1.6 ⁷¹	15.6 ³¹	9.6 ⁸						0.3 ¹⁰⁰	
CAI Tgt Date 2040											
Custom Index		1.4 ⁷⁸	15.5 ³⁴	9.6 ⁸							
Target 2045 Trust	\$36	1.5 ⁷¹	15.7 ³⁰	9.6 ⁸						0.3 ¹⁰⁰	
CAI Tgt Date 2040											
Custom Index		1.4 ⁷⁸	15.5 ³⁴	9.6 ⁸							
Target 2050 Trust	\$41	1.6 ⁷²	15.6 ³⁹	9.6 ⁹						0.3 ¹⁰⁰	
CAI Tgt Date 2050											
Custom Index		1.4 ⁸¹	15.5 ⁴⁴	9.6 ⁹							
Target 2055 Trust	\$14	1.5 ⁸⁰	15.6 ⁴⁸	9.6 ¹⁰						0.3 ¹⁰⁰	
CAI Tgt Date 2055											
Custom Index		1.4 ⁸⁶	15.5 ⁴⁹	9.6 ¹⁰							

Returns:
■ above median
■ third quartile
■ fourth quartile

Risk:
■ below median
■ second quartile
■ first quartile

Risk Quadrant:

Excess Return Ratio:
■ above median
■ third quartile
■ fourth quartile

Tracking Error:
■ below median
■ second quartile
■ first quartile

Sharpe Ratio:
■ above median
■ third quartile
■ fourth quartile

Passive Options

Investment Manager	Market Value (\$mm)	Last Quarter Return	Last Year Return	3 Year Return	5 Year Return	7 Year Return	5 Year Risk	5 Year Risk Quadrant	5 Year Excess Rtn Ratio	3 Year Tracking Error	5 Year Sharpe Ratio
Index Funds											
State Street S&P Index Fund (i)	\$246	-0.4 ⁶⁸	16.0 ⁴⁸	10.9 ⁴¹	1.7 ⁵⁵	4.2 ⁶¹	21.8 ⁵⁶		0.6 ¹³	0.0 ⁹⁹	0.1 ⁵⁵
CAI Large Cap Core Style											
S&P 500 Index		-0.4 ⁶⁷	16.0 ⁴⁸	10.9 ⁴²	1.7 ⁵⁶	4.1 ⁶³	21.8 ⁵³				0.1 ⁵⁷
BlackRock S&P 500 Index Fund	\$131	-0.4 ⁶⁷	16.0 ⁴⁸	10.9 ⁴¹	1.8 ⁵⁵	4.2 ⁵⁹	21.8 ⁵⁵		1.0 ¹	0.0 ⁹⁹	0.1 ⁵⁴
CAI Large Cap Core Style											
S&P 500 Index		-0.4 ⁶⁷	16.0 ⁴⁸	10.9 ⁴²	1.7 ⁵⁶	4.1 ⁶³	21.8 ⁵³				0.1 ⁵⁷
Russell 3000 Index (i)	\$20	0.3 ⁴⁵	16.4 ⁴⁷	11.2 ³³						0.1 ¹⁰⁰	
CAI Large Cap Style											
Russell 3000 Index		0.2 ⁴⁶	16.4 ⁴⁷	11.2 ³³	2.0 ³⁸	4.3 ⁵⁰	22.6 ⁵⁰				0.1 ³⁹
World Eq Ex-US Index (i)	\$18	6.7 ³⁴	17.8 ⁶³	4.1 ⁶⁹						1.1 ¹⁰⁰	
CAI Non-U.S. Equity Style											
MSCI ACWI x US (Net)		5.8 ⁶¹	16.8 ⁷⁵	3.9 ⁷²	-2.9 ⁶⁴	3.5 ⁴⁹	27.2 ²⁹				-0.1 ⁶⁰
Long US Treasury Bond Index (i)	\$18	-0.8 ⁹²	3.6 ⁹⁶	13.7 ⁶⁸						0.1 ⁹⁸	
CAI Extended Mat FI Style											
BC Long Treas		-0.8 ⁹²	3.6 ⁹⁶	13.7 ⁶¹	9.7 ⁸⁷	8.6 ⁸⁵	17.0 ⁶				0.5 ⁹⁴
US Treasury Infl Prtcd SEC (i)	\$25	0.7 ⁷⁴	6.8 ⁷⁰	8.7 ⁶⁹						0.0 ⁹⁶	
CAI Real Return											
BC US TIPS Index		0.7 ⁶⁸	7.0 ⁶⁴	8.9 ⁵³	7.0 ⁶⁵	6.7 ⁶¹	5.0 ³⁴				1.3 ⁶⁵
World Gov't Bond Ex-US Indx (i)	\$6	-2.3 ⁶⁸	1.6 ⁷⁶	3.9 ⁹⁹						0.1 ⁹⁹	
CAI Non-U.S. F-I Style											
Citi WGBI Non-US Idx		-2.4 ⁶⁹	1.5 ⁷⁸	3.9 ⁹⁹	5.2 ⁹¹	6.3 ⁸⁶	10.0 ⁶⁰				0.5 ⁸⁹
US Real Estate Invmt Trust (i)	\$33	2.2 ⁷⁵	16.8 ⁷⁴	17.6 ⁸⁴						0.2 ¹⁰⁰	
CAI Real Estate-REITDB											
US Select REIT Index		2.3 ⁶⁶	17.1 ⁷²	17.9 ⁷⁹	5.1 ⁸³	5.3 ⁸⁵	35.4 ¹⁶				0.1 ⁸³
BlackRock Govt/Credit Bond Fund (i)	\$52	0.3 ⁷⁹	4.7 ⁹²	6.5 ⁸⁶	5.8 ⁵²	5.7 ⁴⁸	4.6 ⁴⁰		-1.4 ⁹⁹	0.0 ⁹⁹	1.1 ⁷⁰
CAI Core Bond Mut Fds											
Barclays Govt/Credit Bd		0.4 ⁷⁶	4.8 ⁹¹	6.7 ⁷⁴	6.1 ⁴⁹	5.9 ⁴⁷	4.6 ⁴⁰				1.2 ⁶⁹

Investment Manager	Market Value (\$mm)	Last Quarter Return	Last Year Return	3 Year Return	5 Year Return	7 Year Return	5 Year Risk	5 Year Risk Quadrant	5 Year Excess Rtn Ratio	3 Year Tracking Error	5 Year Sharpe Ratio
Intermediate Bond Fund (i)	\$15	-0.0 ⁵⁴	1.6 ⁸⁶	4.1 ⁶⁰	4.4 ⁷⁹	4.9 ⁵³	4.1 ¹⁶		-0.5 ⁹⁰	0.0 ⁹⁹	1.0 ⁸⁵
CAI Intermediate F-I Mut											
Barclays Gov Inter		0.0 ⁴⁴	1.7 ⁸⁴	4.2 ⁵⁸	4.5 ⁷²	5.0 ⁴⁵	4.0 ¹⁹				1.0 ⁸³
State Street Inst Trsry MM (i)	\$39	0.0 ¹⁰⁰	0.0 ¹⁰⁰	0.0 ¹⁰⁰	0.3 ¹⁰⁰		0.3 ¹⁰⁰		-1.8 ¹⁰⁰	0.0 ⁸³	-0.9 ¹⁰⁰
Money Market Funds											
3-Month T-Bills		0.0 ¹⁰⁰	0.1 ¹⁰⁰	0.1 ¹⁰⁰	0.4 ¹⁰⁰	1.7 ¹⁰⁰	0.4 ⁹²				-0.2 ¹⁰⁰

Returns:
■ above median
■ third quartile
■ fourth quartile

Risk:
■ below median
■ second quartile
■ first quartile

Risk Quadrant:

Excess Return Ratio:
■ above median
■ third quartile
■ fourth quartile

Tracking Error:
■ below median
■ second quartile
■ first quartile

Sharpe Ratio:
■ above median
■ third quartile
■ fourth quartile

Other Options

Active Equity, Stable Value, and Interest Income

Investment Manager	Market Value (\$mm)	Last Quarter Return	Last Year Return	3 Year Return	5 Year Return	7 Year Return	5 Year Risk	5 Year Risk Quadrant	5 Year Excess Rtn Ratio	3 Year Tracking Error	5 Year Sharpe Ratio
Active and Other Funds											
Brandes Int'l Fund CAI Non-U.S. Equity MF	\$61	4.9 ⁸³	11.8 ⁹⁷	1.7 ⁸⁷						3.2 ⁶⁸	
MSCI EAFE Index		6.6 ⁴⁷	17.3 ⁷⁰	3.6 ⁷²	-3.7 ⁶³	2.2 ⁶⁶	26.3 ⁶⁶				-0.2 ⁶⁷
SSgA Global Balanced CAI Mt Fd: Gl Bal Style	\$53	1.9 ³¹	11.7 ²⁸	7.0 ³⁷						0.3 ⁹⁹	
Global Balanced Custom Benchmark		1.6 ³⁷	11.2 ³⁵	6.7 ⁵²							
RCM Soc Resp CAI Core Equity Mut Fds		1.6 ¹⁰	10.7 ⁸⁴	7.4 ⁷⁴						3.9 ²⁶	
S&P 500 Index		-0.4 ⁴⁹	16.0 ⁴³	10.9 ¹⁹	1.7 ³⁰	4.1 ³⁰	21.8 ⁶¹				0.1 ³⁰
T. Rowe Price Small Cap CAI Sm Cap Broad Mut Fds	\$94	1.8 ⁵¹	18.6 ¹³	16.3 ⁴	7.9 ³	7.2 ⁷	26.1 ⁶⁰		1.3 ¹	1.0 ⁹⁹	0.3 ³
Russell 2000 Index		1.9 ⁵⁰	16.3 ³⁵	12.2 ³⁸	3.6 ⁴⁶	4.8 ⁴⁹	26.4 ⁵⁷				0.1 ⁴⁵
T. Rowe Price Stable Value Fd CAI Stable Value DB	\$334	0.7 ⁴	3.0 ⁷	3.4 ²⁰	3.7 ²⁰	4.0 ²⁸	0.3 ¹⁰⁰		3.6 ¹⁶	0.1 ⁷⁹	12.5 ¹
5 Yr US Treas Rolling		0.5 ⁶⁸	2.1 ⁵⁸	2.8 ⁴⁶	3.2 ⁴⁸	3.4 ⁶⁷	0.3 ⁸⁴				8.1 ²⁸
Def Comp Interest Income Fund CAI Stable Value DB	\$178	0.9 ¹	1.3 ⁹⁷								
5 Yr US Treas Rolling		0.5 ⁶⁸	2.1 ⁵⁸	2.8 ⁴⁶	3.2 ⁴⁸	3.4 ⁶⁷	0.3 ⁸⁴				8.1 ²⁸

Returns:
■ above median
■ third quartile
■ fourth quartile

Risk:
■ below median
■ second quartile
■ first quartile

Risk Quadrant:


Excess Return Ratio:
■ above median
■ third quartile
■ fourth quartile

Tracking Error:
■ below median
■ second quartile
■ first quartile

Sharpe Ratio:
■ above median
■ third quartile
■ fourth quartile

(i) – Indexed scoring method used. Green: manager & index differ by less than +/- 10 percentiles; Yellow: manager and index differ by +/- 20 percentiles; Red: manager & index differ by more than 20 percentiles.

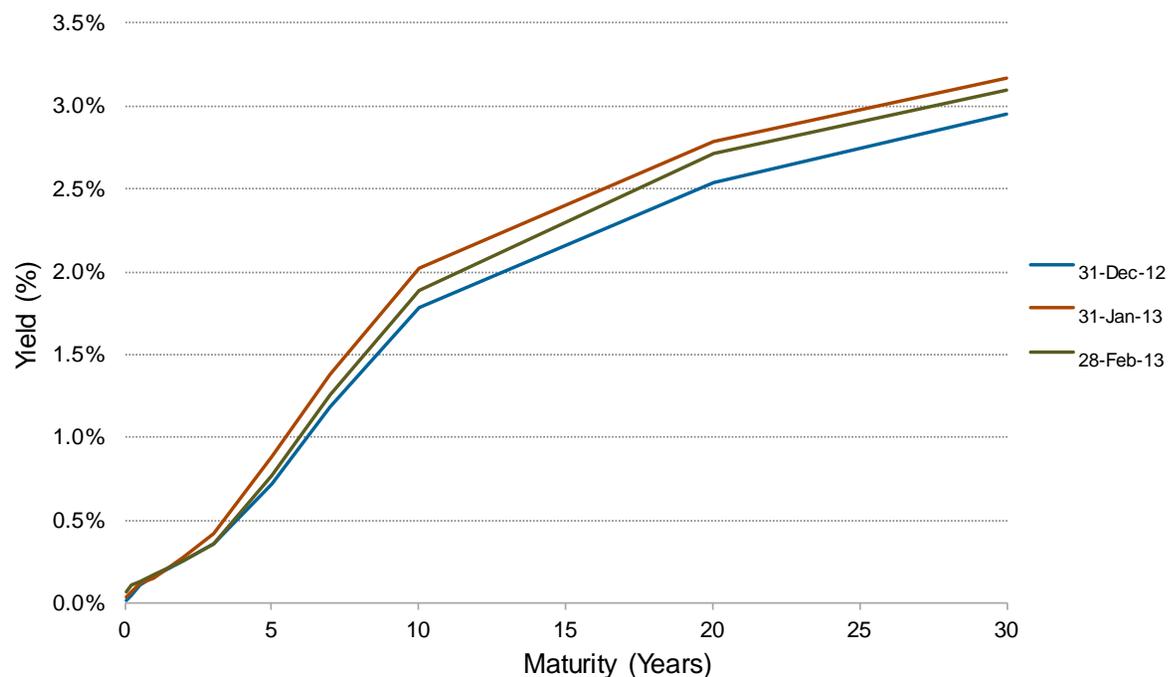
Subsequent Market Results

YTD Through 03/25/12

Index	YTD
Barclays Aggregate	-0.26%
US Treasury	-0.63%
1-3 Year Treasury	0.10%
7-10 Year Treasury	-0.43%
US Credit	-0.31%
High Yield (2% Constr.)	2.83%

Index	YTD
S&P 500	9.33%
Russell 2000	11.65%
MSCI EAFE	5.26%
MSCI Emerging Markets	-2.79%

Treasury Yield Curve



Supplemental Materials

- Database Enhancements
- Select Manager Detail

Supplemental Reference Exhibits

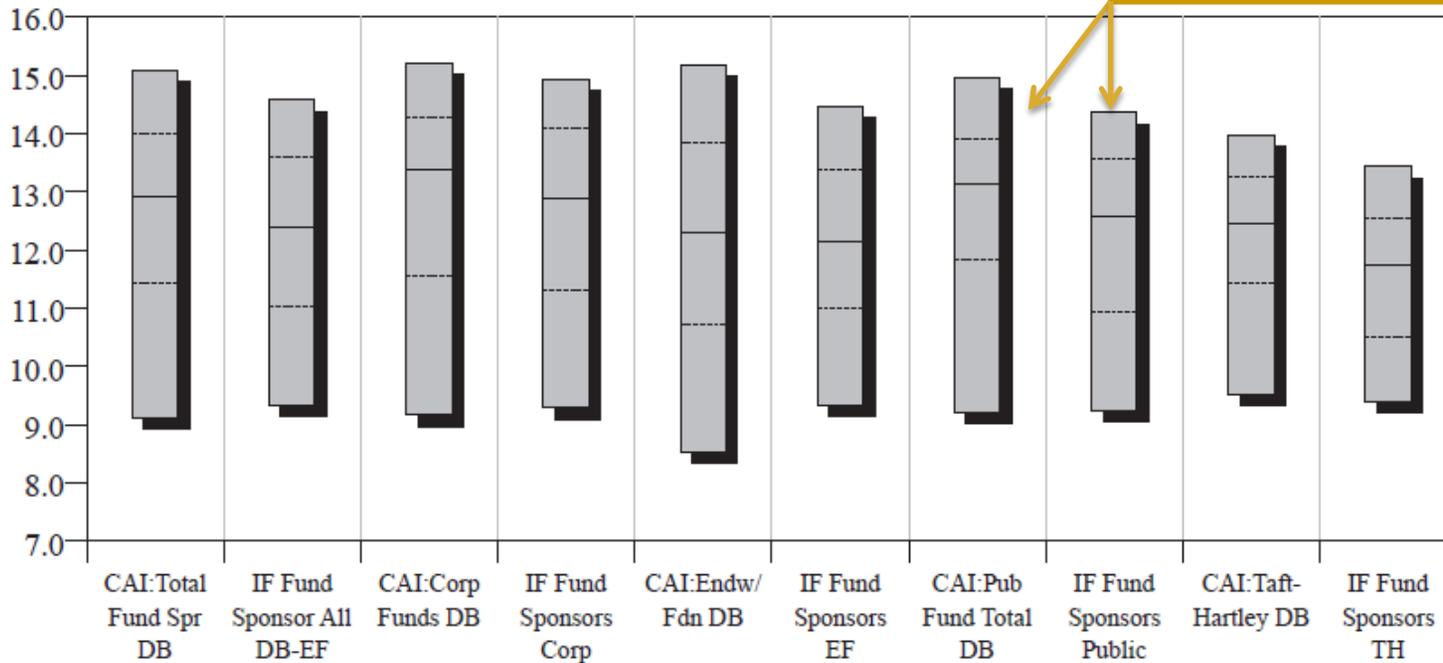
Callan Database Enhancements

- Callan has entered into agreement with InvestorForce to improve our Plan Sponsor Database capabilities. To date our plan sponsor databases included Callan clients, non-client data that we have surveyed and fund sponsor data that we have purchased from Mellon Analytic Services. We have added InvestorForce as a data provider.
 - The benefits are
 - *Improved sample sizes across total fund groups and asset class groups*
 - *Increased asset class granularity (e.g. finer classification of alternatives)*
 - *Monthly results*
 - *And importantly in the next 12 months improved net and gross return capabilities*
 - *This change will begin with March 31 reporting.*
- The graph on the following page contrasts the total plan sponsor return distribution by plan sponsor type for the year that ended 12/31/12.
- Important to note that the expanded database will further improve the statistical of the plan sponsor analytical capabilities.
 - Callan's existing database distributions all fit neatly within the expanded group statistics.
 - The median returns for each sponsor group are slightly lower than those in the current group.
 - *For example, the Callan median public fund return for 2012 is 13.13% and for the trailing 3-years is 8.86%. The InvestorForce median returns for those periods were 12.57% and 8.56% respectively*

Database comparison

Active Returns
for Year Ended December 31, 2012

Public Fund comparison

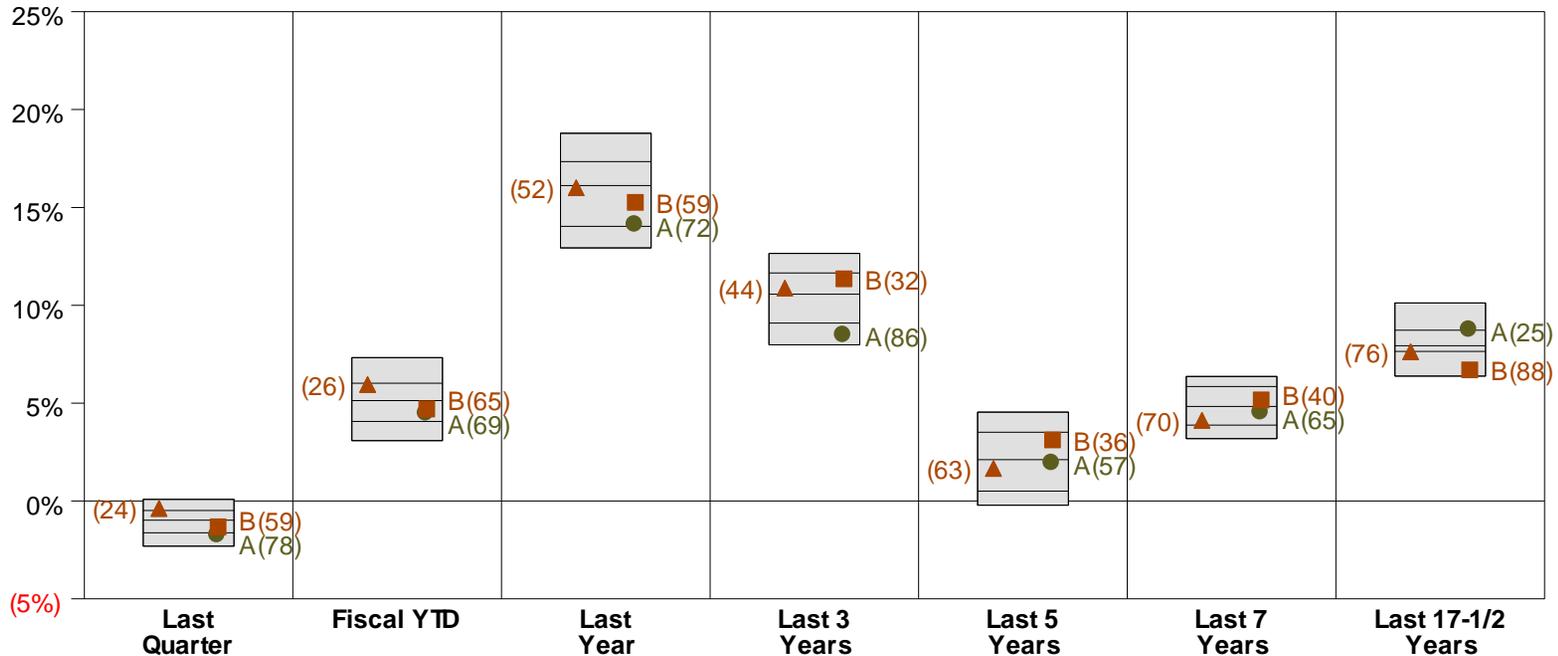


	CAI:Total Fund Spr DB	IF Fund Sponsor All DB-EF	CAI:Corp Funds DB	IF Fund Sponsors Corp	CAI:Endw/Fdn DB	IF Fund Sponsors EF	CAI:Pub Fund Total DB	IF Fund Sponsors Public	CAI:Taft-Hartley DB	IF Fund Sponsors TH
10th Percentile	15.09	14.57	15.21	14.94	15.18	14.47	14.96	14.36	13.96	13.43
25th Percentile	14.00	13.59	14.26	14.08	13.86	13.37	13.90	13.57	13.26	12.54
Median	12.91	12.40	13.37	12.87	12.30	12.13	13.13	12.57	12.45	11.73
75th Percentile	11.42	11.04	11.55	11.31	10.72	10.99	11.83	10.94	11.43	10.49
90th Percentile	9.13	9.34	9.17	9.29	8.54	9.35	9.21	9.25	9.53	9.41
Member Count	561	1,748	211	641	175	571	133	300	42	236

Select Managers

RCM

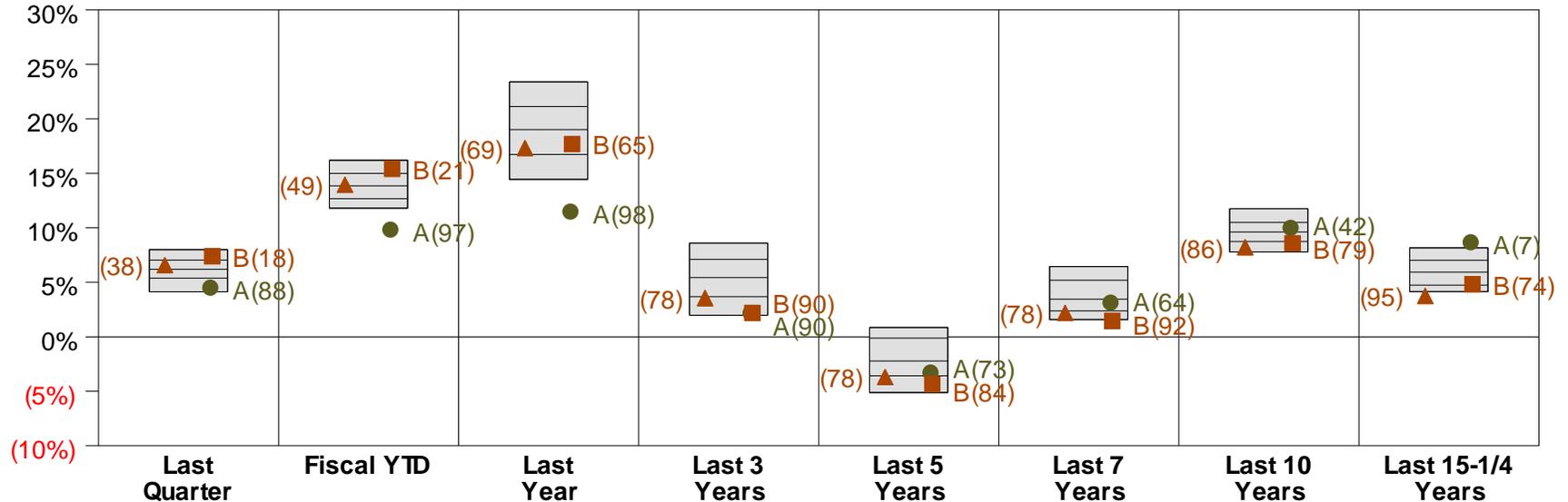
Performance vs CAI Large Cap Growth Style (Gross)



10th Percentile	0.09	7.33	18.78	12.65	4.54	6.36	10.12
25th Percentile	(0.48)	6.02	17.34	11.65	3.51	5.85	8.73
Median	(0.98)	5.13	16.12	10.57	2.12	4.84	7.94
75th Percentile	(1.62)	4.07	14.03	9.09	0.50	3.88	7.64
90th Percentile	(2.31)	3.08	12.93	7.98	(0.21)	3.19	6.38
RCM	● A (1.79)	4.44	14.08	8.45	1.89	4.50	8.71
Russell 1000 Growth	■ B (1.32)	4.71	15.26	11.35	3.12	5.16	6.70
S&P 500 Index	▲ (0.38)	5.95	16.00	10.87	1.66	4.12	7.63

Brandes

Performance vs CAI Non-U.S. Equity Style (Gross)

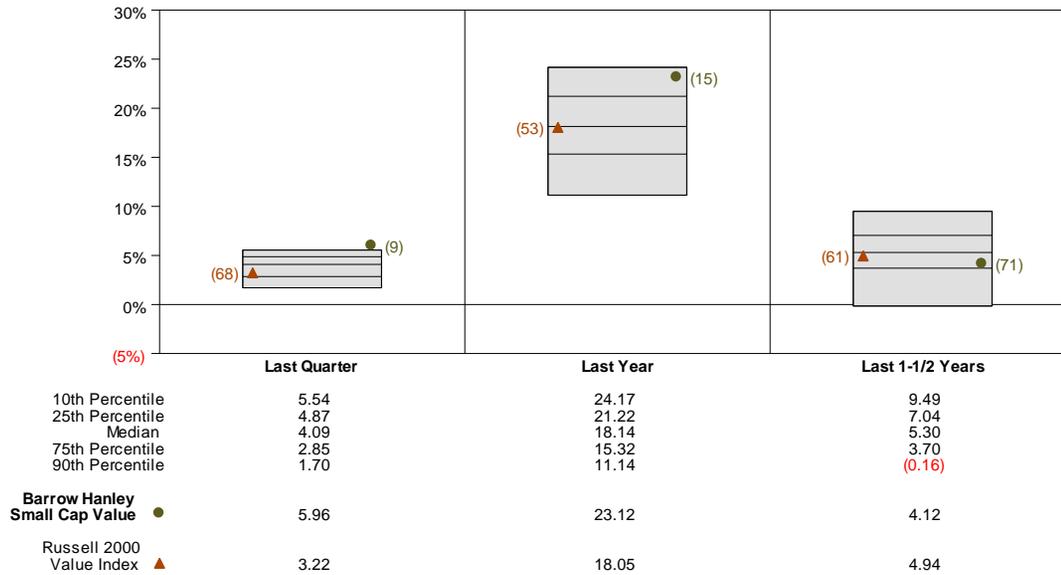


	Last Quarter	Fiscal YTD	Last Year	Last 3 Years	Last 5 Years	Last 7 Years	Last 10 Years	Last 15-1/4 Years
10th Percentile	7.99	16.20	23.38	8.58	0.86	6.44	11.76	8.16
25th Percentile	7.05	15.00	21.12	7.10	(0.11)	5.19	10.50	7.01
Median	6.20	13.85	19.02	5.44	(2.22)	3.45	9.61	5.93
75th Percentile	5.38	12.68	16.73	3.69	(3.58)	2.37	8.75	4.74
90th Percentile	4.12	11.80	14.45	1.97	(5.11)	1.59	7.78	4.15
Brandes ● A	4.34	9.66	11.32	2.03	(3.44)	2.97	9.85	8.51
MSCI EAFE Val w/ net div ■ B	7.39	15.40	17.69	2.19	(4.34)	1.46	8.57	4.82
MSCI EAFE Index ▲	6.57	13.95	17.32	3.56	(3.69)	2.19	8.21	3.75

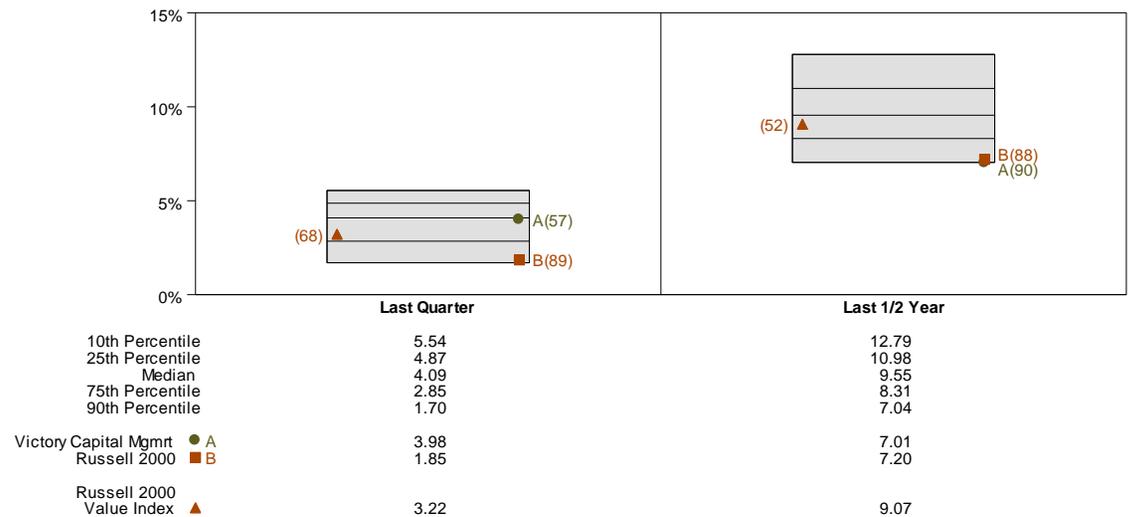
Despite very weak 1 & 3 year performance, still above benchmarks for 5 years & longer time frames

Newer Small Cap Managers

Performance vs CAI Small Cap Value Style (Gross)

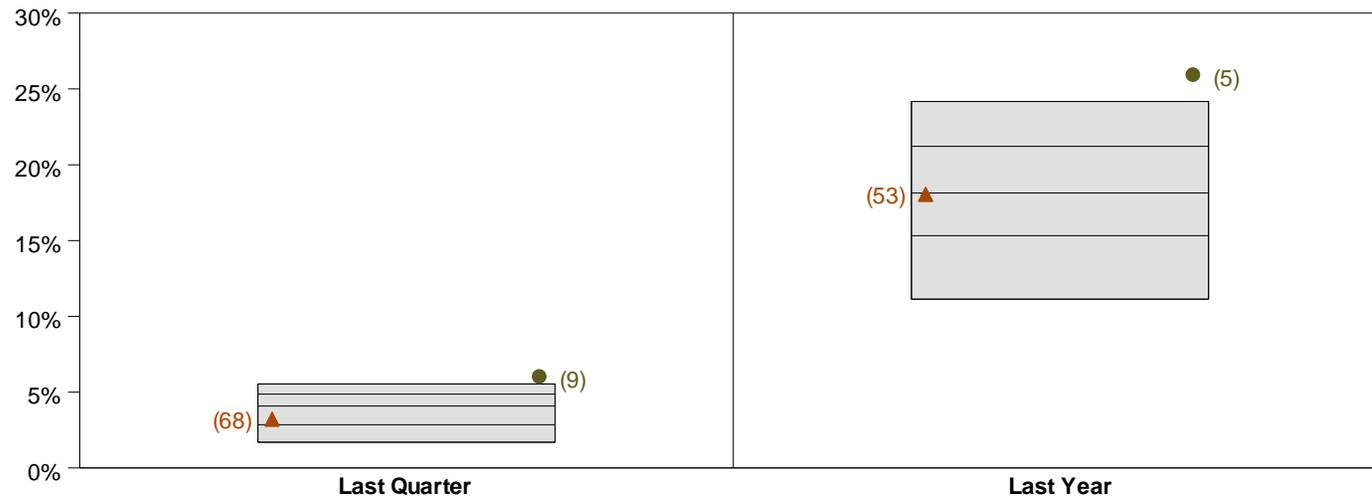


Performance vs CAI Small Cap Value Style (Gross)



Newer Small Cap Managers

Performance vs CAI Small Cap Value Style (Gross)



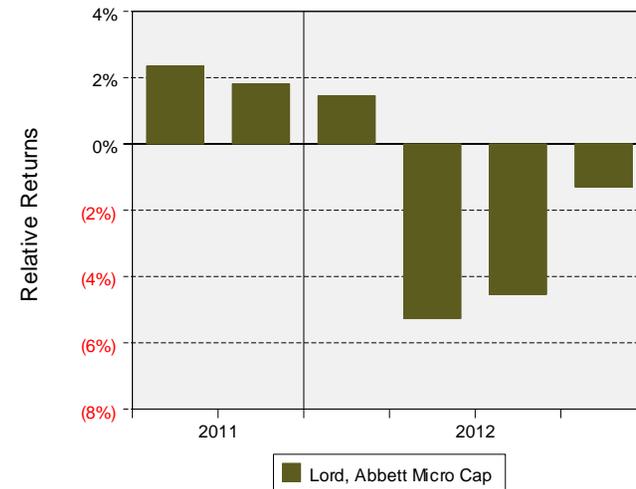
	Last Quarter	Last Year
10th Percentile	5.54	24.17
25th Percentile	4.87	21.22
Median	4.09	18.14
75th Percentile	2.85	15.32
90th Percentile	1.70	11.14
Frontier Capital ●	5.93	25.84
Russell 2000 Value Index ▲	3.22	18.05

Micro Cap Managers

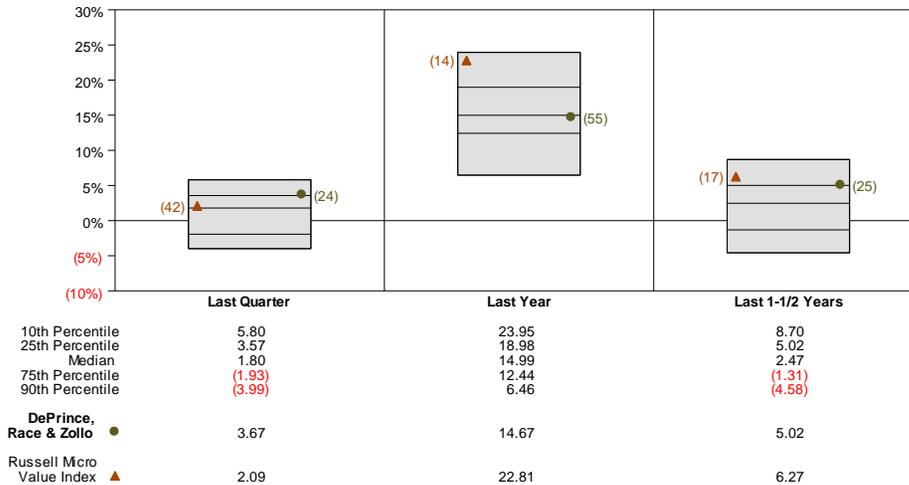
Performance vs CAI Micro Cap Style (Gross)



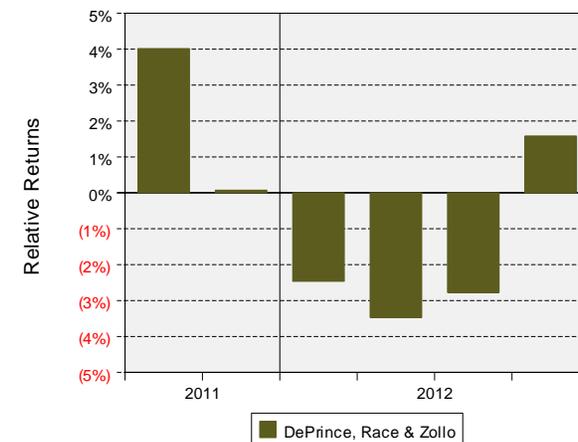
Relative Return vs Russell Micro Growth Idx



Performance vs CAI Micro Cap Style (Gross)



Relative Return vs Russell Micro Value Index



Note – only total micro cap for peer comparison. No style sub-groups owing to limited numbers

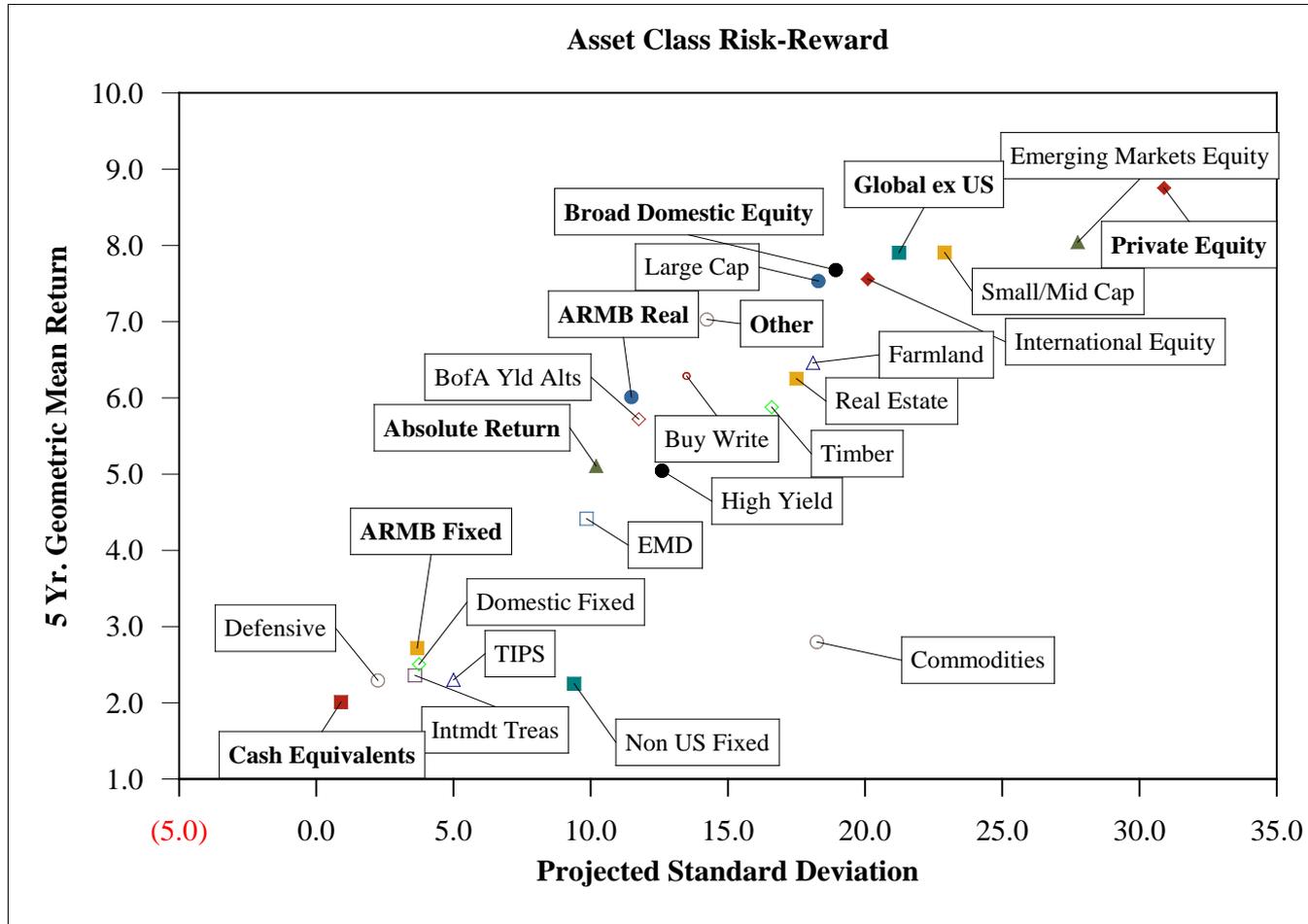
ARMB Teleconference
March 22, 2013

Callan

Asset Allocation Background Materials
Possible Policies That Reflect Desire to Incorporate
“Other” Asset Category & Raise Expected Returns
Prepared by MJO & PE

Risk and Return Assumptions

Asset Class	Projected Arithmetic Return	5 Yr. Geometric Mean Return	10 Yr. Geometric Mean Return	Projected Standard Deviation
Broad Domestic Equity	9.15%	7.68%	7.63%	18.94%
Global ex US	9.80%	7.91%	7.85%	21.24%
Private Equity	13.00%	8.75%	8.63%	30.90%
ARMB Real	6.50%	6.01%	6.00%	11.48%
ARMB Fixed	2.76%	2.72%	2.72%	3.68%
Absolute Return	5.50%	5.11%	5.09%	10.20%
Cash Equivalents	2.00%	2.01%	2.01%	0.90%
Other	7.80%	7.03%	7.00%	14.24%

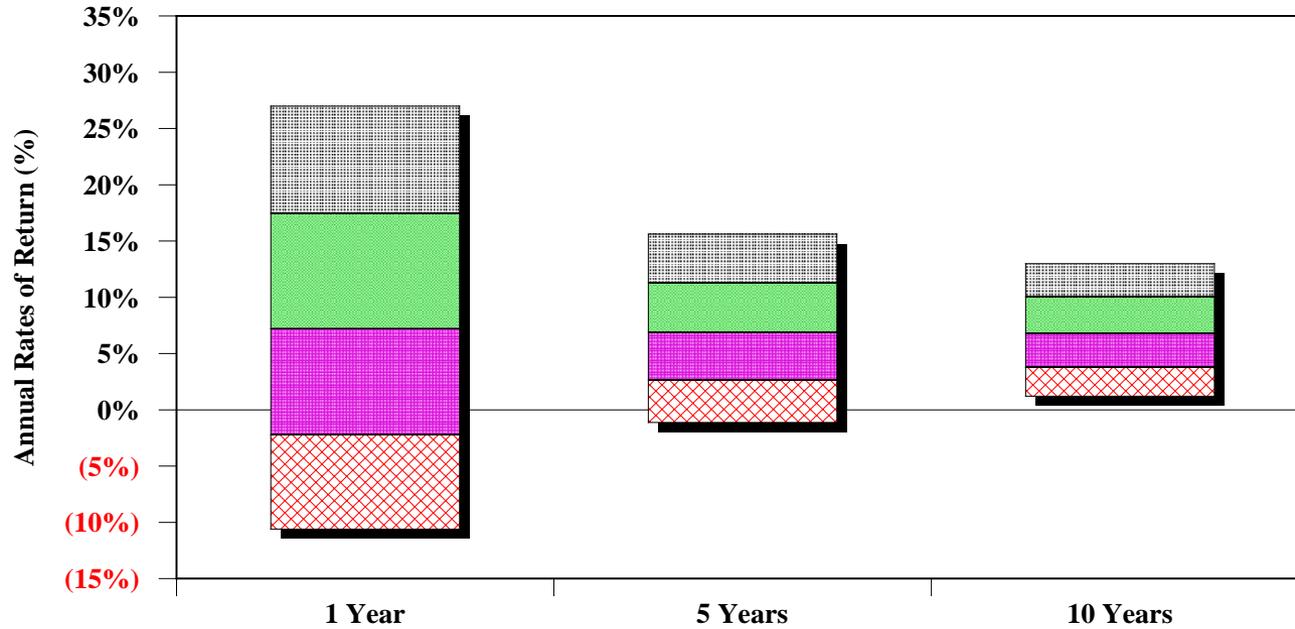


**Asset Mix Alternatives
Reducing Cash To Fund
Higher Return Assets**

Portfolio Component	Current Policy	Real/Other	Int'l/ Real/Other	Real/PE/Other PE/Int'l/Real/Other	Real/PE/Other PE/Int'l/Real/Other
Broad Domestic Equity	27	27	26	27	25
Global ex US	23	23	25	23	25
Private Equity	8	8	8	9	10
ARMB Real	16	18	17	17	16
ARMB Fixed	14	13	13	13	13
Absolute Return	6	5	5	5	5
Cash Equivalents	6	3	3	3	3
Other	0	3	3	3	3
Totals	100	100	100	100	100
Projected Arithmetic Return	7.64%	7.86%	7.90%	7.93%	8.00%
5 Yr. Geometric Mean Return	6.91%	7.07%	7.10%	7.11%	7.16%
10 Yr. Geometric Mean Return	6.89%	7.05%	7.07%	7.08%	7.13%
Projected Standard Deviation	13.88%	14.38%	14.52%	14.59%	14.83%

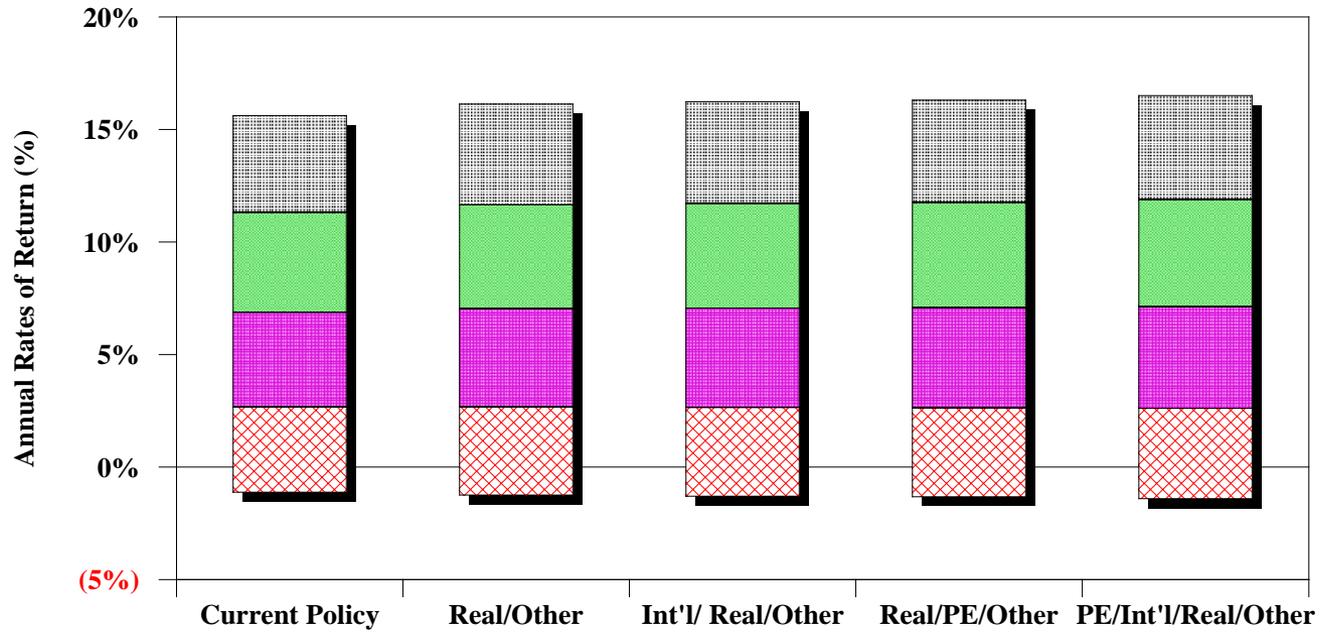
In all these alternative mixes we have reduced cash, introduced a 3% "Other" allocation and illustrate slight changes to various existing allocations.

**Range of Projected Rates of Return
Current Policy**



10th Percentile	26.99%	15.63%	13.00%
25th Percentile	17.48%	11.33%	10.03%
Median	7.21%	6.89%	6.80%
75th Percentile	(2.21%)	2.67%	3.79%
90th Percentile	(10.60%)	(1.11%)	1.22%

**Range of Projected Rates of Return
Projection Period: 5 Years**



10th Percentile	15.63%	16.13%	16.24%	16.30%	16.51%
25th Percentile	11.33%	11.65%	11.72%	11.76%	11.88%
Median	6.89%	7.05%	7.07%	7.09%	7.14%
75th Percentile	2.67%	2.68%	2.66%	2.65%	2.62%
90th Percentile	(1.11%)	(1.24%)	(1.29%)	(1.31%)	(1.40%)

Asset Mix Alternatives

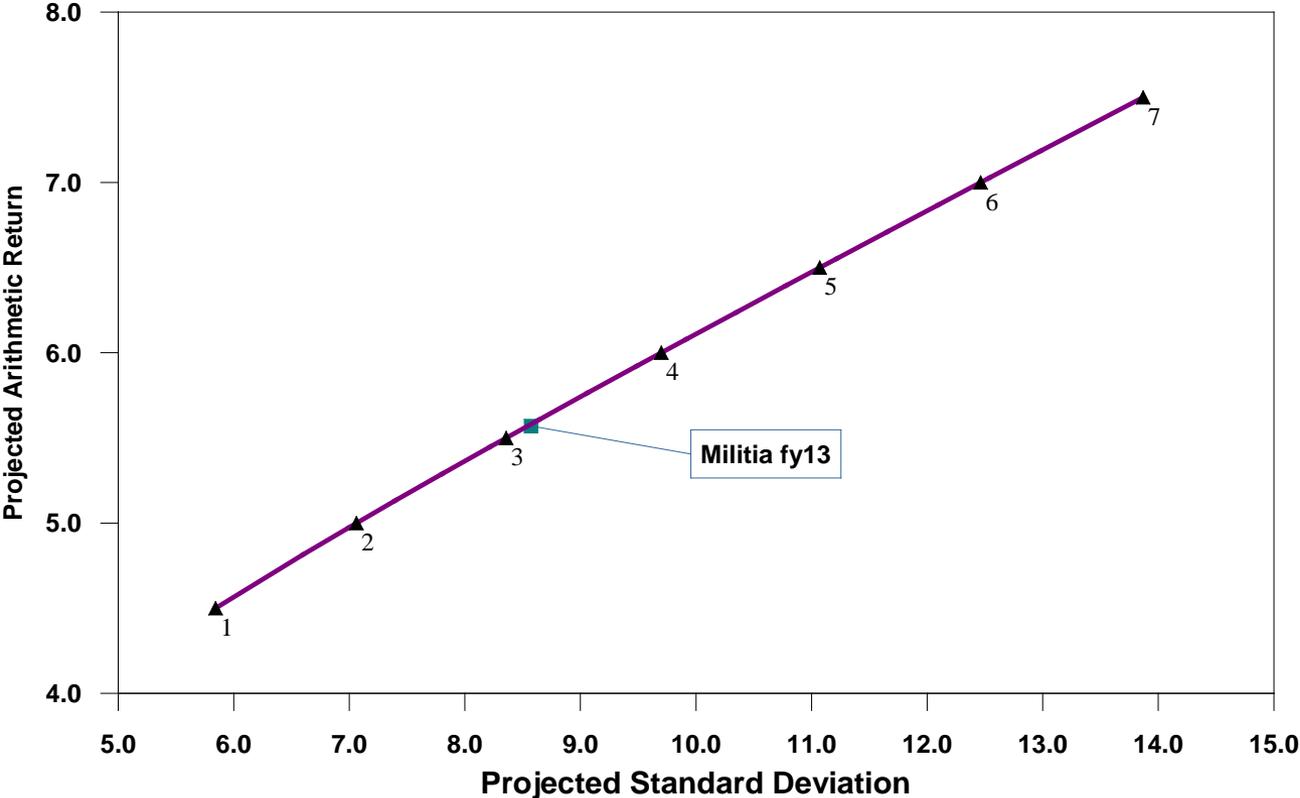
Portfolio Component	Current Policy	Increase Real	Proposed New
Broad Domestic Equity	27	27	26
Global ex US	23	23	25
Private Equity	8	8	9
ARMB Real	16	18	17
ARMB Fixed	14	13	12
Absolute Return	6	5	5
Other	0	0	3
Cash Equivalents	6	6	3
Totals	100	100	100
Projected Arithmetic Return	7.64%	7.69%	8.00%
Projected Standard Deviation	13.88%	13.97%	14.81%
5 Yr. Geometric Mean Return	6.91%	6.95%	7.16%
10 Yr. Geometric Mean Return	6.89%	6.92%	7.13%
10 Yr. Simulated Sharpe Ratio	0.35%	0.35%	0.35%

“Proposed New” reflects the results of today’s call (3/22/13). I included one of the four alternative policies that we discussed just to illustrate differences.

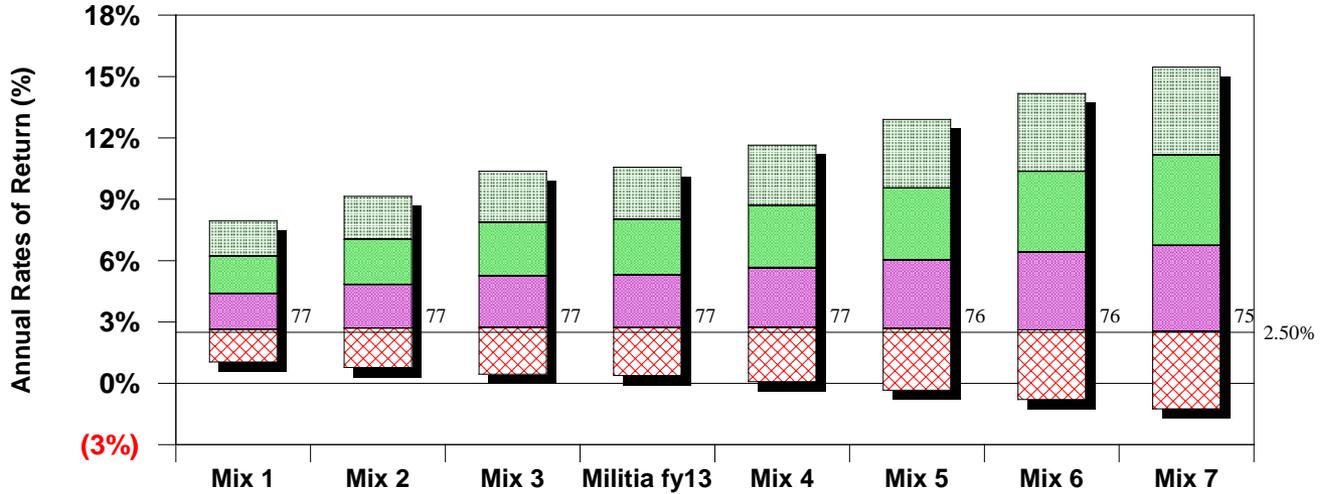
**Asset Mix Alternatives
Liquid Asset Only Mixes**

Portfolio Component	Mix 2	Mix 3	Mix 4	Mix 5	Mix 6	Mix 7
Broad Domestic Equity	20	25	26	29	34	38
Global ex US	14	17	17	20	23	26
ARMB Fixed	63	55	51	48	40	33
Cash Equivalents	3	3	6	3	3	3
Totals	100	100	100	100	100	100
Projected Arithmetic Return	5.00%	5.50%	5.57%	6.00%	6.50%	7.00%
Projected Standard Deviation	7.06%	8.36%	8.57%	9.70%	11.07%	12.46%
5 Yr. Geometric Mean Return	4.85%	5.27%	5.33%	5.68%	6.06%	6.42%
10 Yr. Geometric Mean Return	4.85%	5.26%	5.32%	5.66%	6.04%	6.40%
10 Yr. Simulated Sharpe Ratio	0.40%	0.39%	0.39%	0.38%	0.37%	0.35%

**Efficient Frontier
Liquid Assets Only**

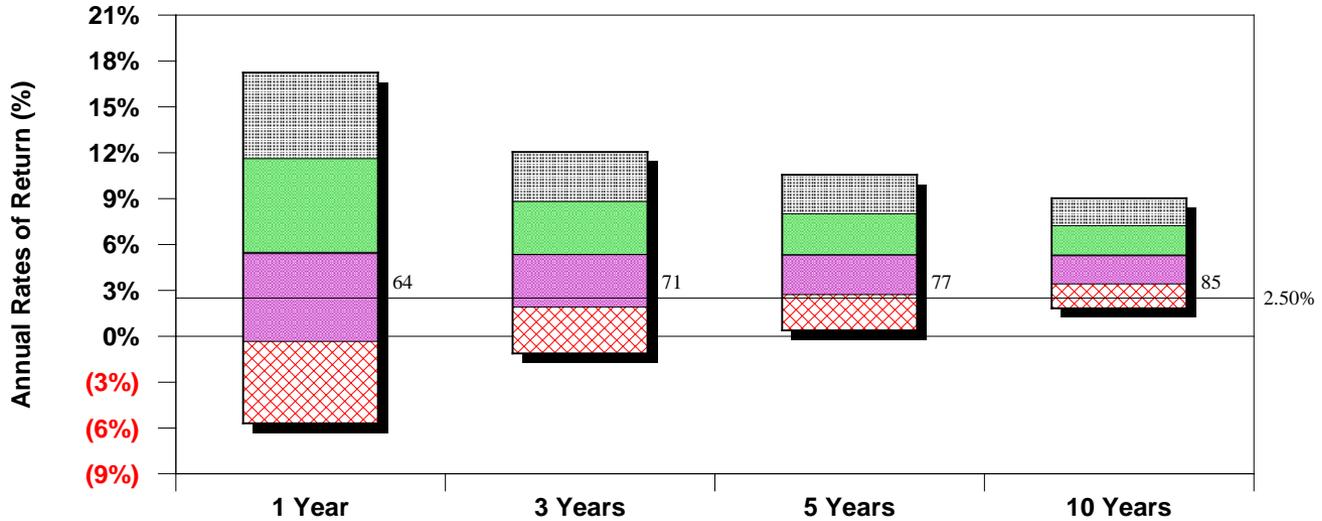


**Range of Projected Rates of Return
Projection Period: 5 Years**



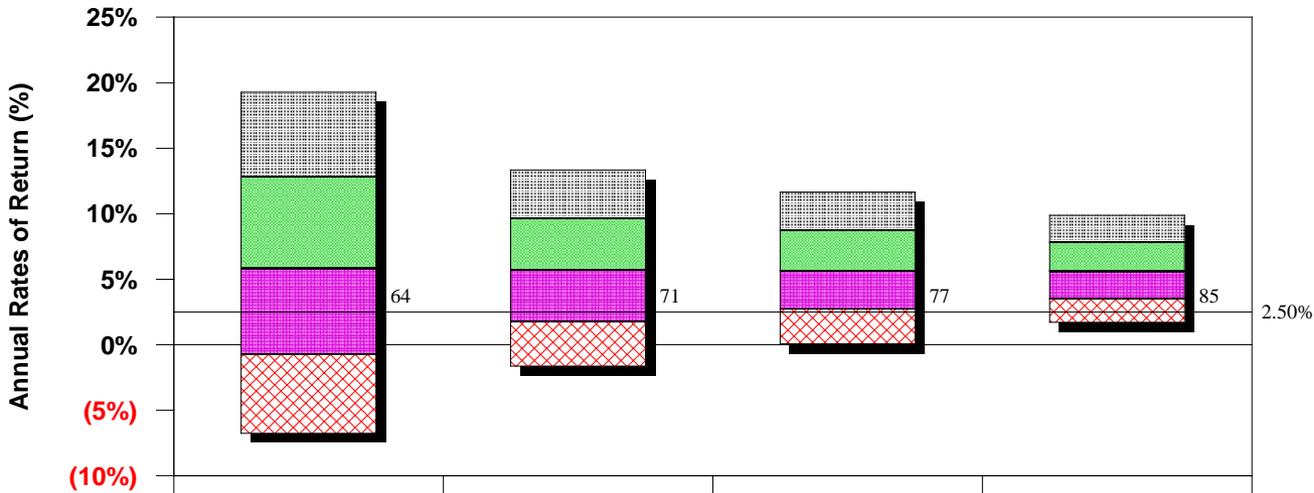
	Mix 1	Mix 2	Mix 3	Militia fy13	Mix 4	Mix 5	Mix 6	Mix 7
Average	4.41%	4.85%	5.27%	5.33%	5.68%	6.06%	6.42%	6.76%
10th Percentile	7.94%	9.14%	10.37%	10.56%	11.65%	12.90%	14.17%	15.47%
25th Percentile	6.22%	7.04%	7.88%	8.01%	8.72%	9.55%	10.38%	11.17%
Median	4.40%	4.84%	5.26%	5.31%	5.66%	6.03%	6.41%	6.74%
75th Percentile	2.64%	2.71%	2.73%	2.72%	2.73%	2.68%	2.61%	2.53%
90th Percentile	1.04%	0.78%	0.45%	0.38%	0.08%	(0.33%)	(0.79%)	(1.25%)
Prob > 2.50%	76.59%	76.90%	76.85%	76.71%	76.63%	76.35%	75.61%	74.95%

Range of Projected Rates of Return Militia fy13



	1 Year	3 Years	5 Years	10 Years
Average	5.40%	5.34%	5.33%	5.32%
10th Percentile	17.24%	12.05%	10.56%	9.03%
25th Percentile	11.61%	8.82%	8.01%	7.23%
Median	5.49%	5.35%	5.31%	5.26%
75th Percentile	(0.34%)	1.91%	2.72%	3.43%
90th Percentile	(5.69%)	(1.12%)	0.38%	1.83%
Prob > 2.50%	64.1%	71.0%	76.7%	85.0%

**Range of Projected Rates of Return
Mix 4 - Possible Alternative**



	1 Year	3 Years	5 Years	10 Years
Average	5.77%	5.69%	5.68%	5.66%
10th Percentile	19.26%	13.34%	11.65%	9.88%
25th Percentile	12.85%	9.64%	8.72%	7.84%
Median	5.84%	5.71%	5.66%	5.60%
75th Percentile	(0.72%)	1.80%	2.73%	3.51%
90th Percentile	(6.76%)	(1.63%)	0.08%	1.72%
Prob > 2.50%	64.0%	70.9%	76.6%	84.7%

ALASKA RETIREMENT MANAGEMENT BOARD

SUBJECT: Asset Allocations – ACTION: X
Resolutions 2013-04, 2013-05, 2013-06
DATE: April 19, 2013 INFORMATION: _____

BACKGROUND:

The Alaska Retirement Management Board (Board) sets and reviews the asset allocations on behalf of all plans over which it has fiduciary responsibility. This process incorporates five-year capital market assumptions, board goals, actuarial assumptions, and other factors.

STATUS:

At the February 2013 meeting of the Board, Callan Associates, Inc. (Callan) presented the 2013 capital market projections that are the basis for the asset allocation and optimization process. On March 22, 2013, Chief Investment Officer Gary Bader conferred with Michael O’Leary of Callan and Investment Advisory Council (IAC) members Dr. William Jennings, Mr. George Wilson, and Dr. Jerrold Mitchell regarding asset allocation for the next fiscal year.

As a result of that meeting and subsequent emails, staff, the IAC, and Callan recommend the following strategic asset allocations after considering current asset allocations and a range of optimal portfolios produced by Callan:

Resolution 2013-04 – Public Employees’, Teachers’ and Judicial Retirement Systems
Public Employees’, Teachers’, and Judicial Retirement Health Trust Funds
Retiree Major Health Insurance Fund
Health Reimbursement Arrangement Fund
PERS Peace Officers/Firefighters Occupational Death & Disability Fund
PERS, TRS, All Other Death & Disability Fund

Resolution 2013-05 – Alaska National Guard and Naval Militia Retirement Systems

Resolution 2013-06 – Public Employees’ and Teachers’ Retirement Systems Defined Contribution Holding Accounts

RECOMMENDATION:

That the Alaska Retirement Management Board adopt Resolutions 2013-04, 2013-05, and 2013-06, approving the asset allocations for fiscal year 2014.

State of Alaska
ALASKA RETIREMENT MANAGEMENT BOARD
Relating to Asset Allocation
For the Public Employees', Teachers' and Judicial Retirement Systems
Public Employees', Teachers', and Judicial Retirement Health Trust Funds
Retiree Major Health Insurance Fund
Health Reimbursement Arrangement Fund
PERS Peace Officers/Firefighters Occupational Death & Disability Fund
PERS, TRS, All Other Death & Disability Fund

Resolution 2013-04

WHEREAS, the Alaska Retirement Management Board (Board) was established by law to serve as trustee of the assets of the State's retirement systems; and

WHEREAS, under AS 37.10.210-220, the Board is to establish and determine the investment objectives and policies for each of the funds entrusted to it; and

WHEREAS, AS 37.10.071 and AS 37.10.210-220 require the Board to apply the prudent investor rule and exercise the fiduciary duty in the sole financial best interest of the funds entrusted to it and treat beneficiaries thereof with impartiality; and

WHEREAS, the Board contracts an independent consultant to provide experience and expertise in asset allocation and other investment matters to come before the Board; and

WHEREAS, the Board has reviewed the actuarial assumptions; and

WHEREAS, the Board has reviewed the asset allocation set forth in the study prepared by the external investment consulting firm of Callan Associates, Inc.; and

WHEREAS, a prudent, diversified portfolio reduces risk and volatility and considers short term and long term earnings requirements for the Funds; and

WHEREAS, the Board shall continue to review, evaluate and make appropriate adjustments to asset allocation for the retirement plans on a periodic basis;

NOW THEREFORE, BE IT RESOLVED BY THE ALASKA RETIREMENT MANAGEMENT BOARD that the following asset allocation be established for the Public Employees', Teachers' and Judicial Retirement Systems; Public Employees', Teachers', and Judicial Retirement Health Trust Funds; Retiree Major Health Insurance Fund; Health Reimbursement Arrangement Fund; PERS Peace Officers/Firefighters Occupational Death & Disability Fund; and the PERS, TRS, All Other Death & Disability Fund, effective July 1, 2013:

Target Asset Allocation

<u>Asset class</u>	<u>Allocation</u>	<u>Range</u>
Broad Domestic Equity	26%	± 6%
Global Equity Ex-US	25%	± 4%
Private Equity	9%	± 5%
Real Assets	17%	± 8%
Absolute Return	5%	± 4%
Fixed Composite	12%	± 5%
Alternative Equity Strategies	3%	± 2%
<u>Cash Equivalents</u>	<u>3%</u>	- 3%/+1%
Total	100%	

Expected Return – 5-Year Geometric Mean	7.16%
Projected Standard Deviation	14.81%

This resolution repeals and replaces Resolution 2012-05.

DATED at Juneau, Alaska this ____ day of April, 2013.

Chair

ATTEST:

Secretary

State of Alaska
ALASKA RETIREMENT MANAGEMENT BOARD
Relating to Asset Allocation
For the Alaska National Guard and Naval Militia Retirement Systems

Resolution 2013-05

WHEREAS, the Alaska Retirement Management Board (Board) was established by law to serve as trustee of the assets of the State's retirement systems; and

WHEREAS, under AS 37.10.210-220, the Board is to establish and determine the investment objectives and policy for each of the funds entrusted to it; and

WHEREAS, AS 37.10.071 and AS 37.10.210-220 require the Board to apply the prudent investor rule and exercise the fiduciary duty in the sole financial best interest of the funds entrusted to it and treat beneficiaries thereof with impartiality; and

WHEREAS, the Board contracts an independent consultant to provide experience and expertise in asset allocation and other investment matters to come before the Board; and

WHEREAS, the Board has reviewed the actuarial assumptions for the Alaska National Guard and Naval Militia Retirement Systems; and

WHEREAS, the Board has reviewed the asset allocation set forth in the study prepared by the external investment consulting firm of Callan Associates, Inc.; and

WHEREAS, a prudent, diversified portfolio reduces risk and volatility and considers short term and long term earnings requirements for the Funds; and

WHEREAS, the Board shall continue to review, evaluate and make appropriate adjustments to asset allocation for the retirement plans on a periodic basis;

NOW THEREFORE, BE IT RESOLVED BY THE ALASKA RETIREMENT MANAGEMENT BOARD that the following asset allocation be established for the Alaska National Guard & Naval Militia Retirement System, effective July 1, 2013:

Target Asset Allocation

<u>Asset class</u>	<u>Allocation</u>	<u>Range</u>
Broad Domestic Equity	29%	± 6%
Global Equity Ex-US	20%	± 4%
Fixed Composite	48%	± 10%
<u>Short-Term Fixed Income</u>	<u>3%</u>	- 3%/+1%
Total	100%	

Expected Return – 5-Year Geometric Mean	5.68%
Projected Standard Deviation	9.70%

This resolution repeals and replaces Resolution 2012-06.

DATED at Juneau, Alaska this ____ day of April, 2013.

Chair

ATTEST:

Secretary

State of Alaska
ALASKA RETIREMENT MANAGEMENT BOARD
Relating to Asset Allocation
For the Public Employees' and Teachers' Retirement Systems Defined Contribution
Holding Accounts

Resolution 2013-06

WHEREAS, the Alaska Retirement Management Board (Board) was established by law to serve as trustee of the assets of the State's retirement systems; and

WHEREAS, under AS 37.10.210-220, the Board is to establish and determine the investment objectives and policy for each of the funds entrusted to it; and

WHEREAS, AS 37.10.071 and AS 37.10.210-220 require the Board to apply the prudent investor rule and exercise the fiduciary duty in the sole financial best interest of the funds entrusted to it and treat beneficiaries thereof with impartiality; and

WHEREAS, the Board contracts an independent consultant to provide experience and expertise in asset allocation and other investment matters to come before the Board; and

WHEREAS, the Board has reviewed the actuarial assumptions for the Public Employees' Retirement System and the Teachers' Retirement System; and

WHEREAS, the Board has reviewed the asset allocation set forth in the study prepared by the external investment consulting firm of Callan Associates, Inc.; and

WHEREAS, a prudent, diversified portfolio reduces risk and volatility and considers short term and long term earnings requirements for the Funds; and

WHEREAS, the Board shall continue to review, evaluate and make appropriate adjustments to asset allocation for the retirement plans on a periodic basis.

NOW THEREFORE, BE IT RESOLVED BY THE ALASKA RETIREMENT MANAGEMENT BOARD, that the following asset allocation be established for the Public Employees' and Teachers' Retirement Systems Defined Contribution Holding Accounts, effective July 1, 2013:

Target Asset Allocation

<u>Asset class</u>	<u>Allocation</u>	<u>Range</u>
Short-Term Fixed Income	100%	± 0%
Expected Return	2.00%	
Projected Standard Deviation	0.90%	

This Resolution repeals and replaces Resolution 2012-07.

DATED at Juneau, Alaska this ____ day of April, 2013.

Chair

ATTEST:

Secretary

ALASKA RETIREMENT MANAGEMENT BOARD

SUBJECT: Approval to Engage Municipal Manager

ACTION: X

DATE: April 18-19, 2013

INFORMATION:

BACKGROUND:

At its December 2012 meeting, the Alaska Retirement Management Board (ARMB) instructed Callan Associates (Callan) to conduct a search for a taxable municipal bond manager to invest up to \$200 million in assets.

Callan sent requests for information to over twenty firms and received twelve responses. From those responses, Callan narrowed the list to six firms: Eaton Vance, Goldman Sachs, Guggenheim Investments, Income Research & Management, T. Rowe Price and Western Asset Management Company.

In early March 2013, Callan forwarded information on those firms, plus information on Alaska Permanent Capital to Gary Bader for further consideration. Gary Bader and Bob Mitchell reviewed the materials provided by Callan and further narrowed the list to two firms, Guggenheim Investments and Western Asset Management Company. They were chosen for their expertise in the municipal bond market and for the potential for these firms to provide a beneficial perspective more broadly to the overall ARMB portfolio. Gary Bader and Bob Mitchell conducted an on-site due-diligence visit to each firm in March 2013.

STATUS:

The two firms have presented to the ARMB.

RECOMMENDATION:

Authorize staff to engage in contract negotiations to invest up to \$100 million with one of the two presenters in a taxable municipal bond mandate benchmarked against the Barclays Taxable Municipal: US Aggregate Eligible Index.

Guggenheim Municipal Capabilities

Presentation to:

Alaska Retirement Management Board

April 2013

Guggenheim Investments Attendees

Christopher Cook

Managing Director,
Client Relationship Manager

Mr. Cook joined Guggenheim in 2006 focusing on client relationship management, marketing and new business development. Mr. Cook has customized strategies for international and domestic institutional clients and has been instrumental in building the firm's client base. During his tenure at Guggenheim, Mr. Cook has been involved in various strategies including equity-related, fixed income and total return. Prior to Guggenheim, Mr. Cook was principal and owner of Bomber Enterprises – a consulting firm focus on management, marketing and sales. This entrepreneurial venture came after Mr. Cook worked as an airframe and power plant technician for ACM Aviation in San Jose California, where he held a management position, maintaining a fleet of private aircraft. Before ACM Aviation, Mr. Cook served in the United States Air Force.

James E. Pass

Managing Director,
Portfolio Manager

Mr. Pass joined Guggenheim in 2009 and is responsible for the research, development and implementation of investment strategies for the firm's municipal obligations, including tax-exempt and taxable bonds, Build America Bonds and tax-credit bonds. He is responsible for building and managing the firm's military housing and municipal hybrid activities, making the firm a leader in those sectors among institutional investors. Mr. Pass and his Municipal Investment Team successfully grew municipal holdings from less than \$1 billion as of December 2008 to over \$8.5 billion as of December 2012 and were instrumental in launching multiple funds. Prior to joining Guggenheim, Mr. Pass was a Managing Director at RBC Capital Markets where he headed the firm's Midwest Region. He earned his B.A. in Diplomatic History and Political Science from the University of Pennsylvania. Due to the breadth of his industry knowledge, Mr. Pass has been featured in multiple publications and spoke to various associations in the industry, including Bloomberg Press, Bloomberg Live, The Bond Buyer, National Federation of Municipal Analysts and National Association of State Treasurers.

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Executive Summary

Executive Summary

- Guggenheim is committed to leveraging its deep expertise in municipal debt for the objective of designing the optimal customized portfolio for the Alaska Retirement Management Board.
- With over \$9 billion of our approximately \$170 billion¹ in total assets under management invested in municipal bonds, the Guggenheim Investments team has decades of experience in global credit markets, with extensive knowledge in the evaluation of financial statements, state and local governments, capital structures and the relationship between the taxable and tax-exempt yield curves. We believe our ability to identify opportunities in terms of absolute and relative value is best highlighted by the performance of our taxable municipal portfolios.
- Guggenheim’s deep understanding of the differences between the taxable and non-taxable municipal sectors provides a significant advantage in designing the optimal portfolio in terms of safety, liquidity and yield.
- Guggenheim has a reputation of being the first to identify opportunities such as Build America Bonds, Qualified School Construction Bonds and Military Housing Bonds.
- Guggenheim goes further to enhance investment ideas, such as working with the U.S. Treasury to establish guidelines to separate (“strip”) tax credits from the principal and better understand the offset provision related to Build America Bonds.
- We welcome the opportunity to partner with the Alaska Retirement Management Board’s effort of maintaining the long term sustainability of the pension plan.

¹ Figure is as of 12.31.2012 and includes consulting services for clients whose assets are valued at approximately \$37 billion.



Introduction to Guggenheim

Guggenheim Partners



WHO WE ARE

Guggenheim Partners is a privately held, global financial services firm with over 2,200 employees and \$170 billion in assets under management*. We combine innovative thinking and experienced advice to produce customized solutions for our clients, which include institutions, governments and agencies, corporations, investment advisors, family offices, and individual investors.

Investments

Premier asset manager and investment advisor with expertise in:

- Fixed Income
- Equities
- Alternatives
- Managed Accounts
- Advisory Solutions

Insurance Services

Advisor to insurance company management and boards on topics including:

- Asset Liability Management
- Capital and Expense Management
- Transactions and Products

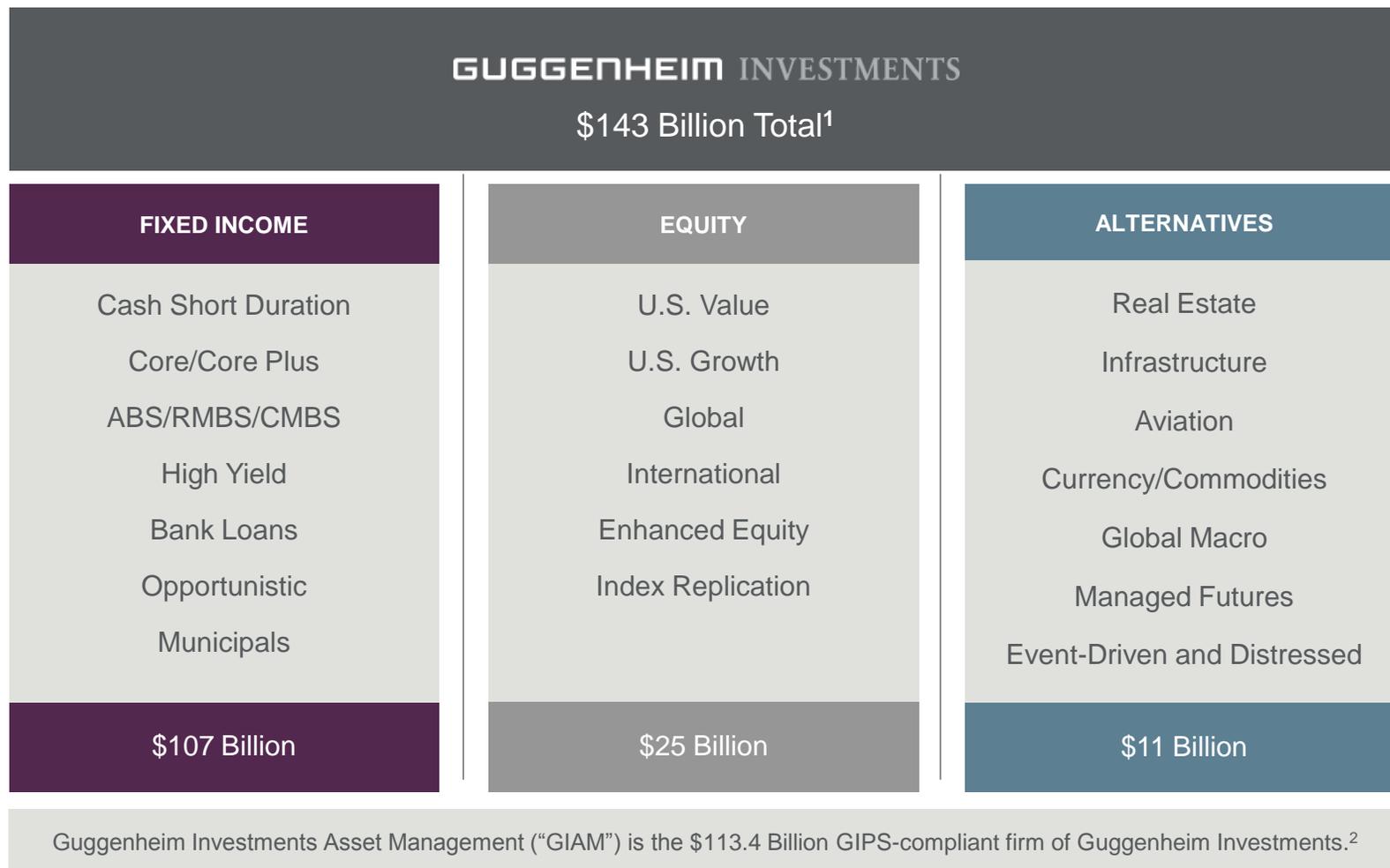
Securities

Full-service investment banking and capital markets capabilities including:

- Advisory
- Financing
- Sales and Trading
- Research

*Assets under management are as of 12.31.2012 and include consulting services for clients whose assets are valued at approximately \$37 billion.

Investment Capabilities



¹ Assets Under Management(AUM) is as of 12.31.2012 and includes \$10.71B of leverage. AUM includes assets from Security Investors, Guggenheim Partners Investment Management, LLC (“GPIM”, formerly known as Guggenheim Partners Asset Management, LLC; GPIM assets also include all assets from Guggenheim Investment Management, LLC which were transferred as of 06.30.2012), Guggenheim Funds Investment Advisors and its affiliated entities, and some business units including Guggenheim Real Estate, Guggenheim Aviation, GS GAMMA Advisors, Guggenheim Partners Europe, Transparent Value Advisors, and Guggenheim Partners India Management. Values from some funds are based upon prior periods.

² GIAM assets under management are as of 12.31.2012 and are comprised from the following entities: Guggenheim Partners Investment Management, LLC, Guggenheim Partners Europe Limited, Transparent Value Advisors, LLC, and Security Investors, LLC.

Guggenheim Advantages and Strengths

Expertise across the credit continuum

- More than a decade of experience in global credit markets
- Extensive experience evaluating corporate financial statements, capital structures, originating loans and mezzanine investments
- Expertise in identifying the best absolute and relative value opportunities

Depth of credit research

- Over 130 investment professionals use a fundamental credit-intensive investment process that incorporates our knowledge of companies and industries
- Monitor investments in database of approximately 1,000 companies and focus on industry expertise
- Unique perspective on a company's competitive positioning

Legal analysis of terms and covenants

- Team of 18 attorneys that actively review covenants, credit agreements and bond indentures to understand the limitations and flexibility afforded in the underlying documentation

Complement to other fixed-income managers

- Market leadership in larger, broadly syndicated deals complemented by unique expertise in middle-market opportunities
- Provide diversification for investors within the corporate credit space
- Information edge identifying companies that we believe are not properly being followed by rating agencies and penalized due to lack of information

Investor base and infrastructure

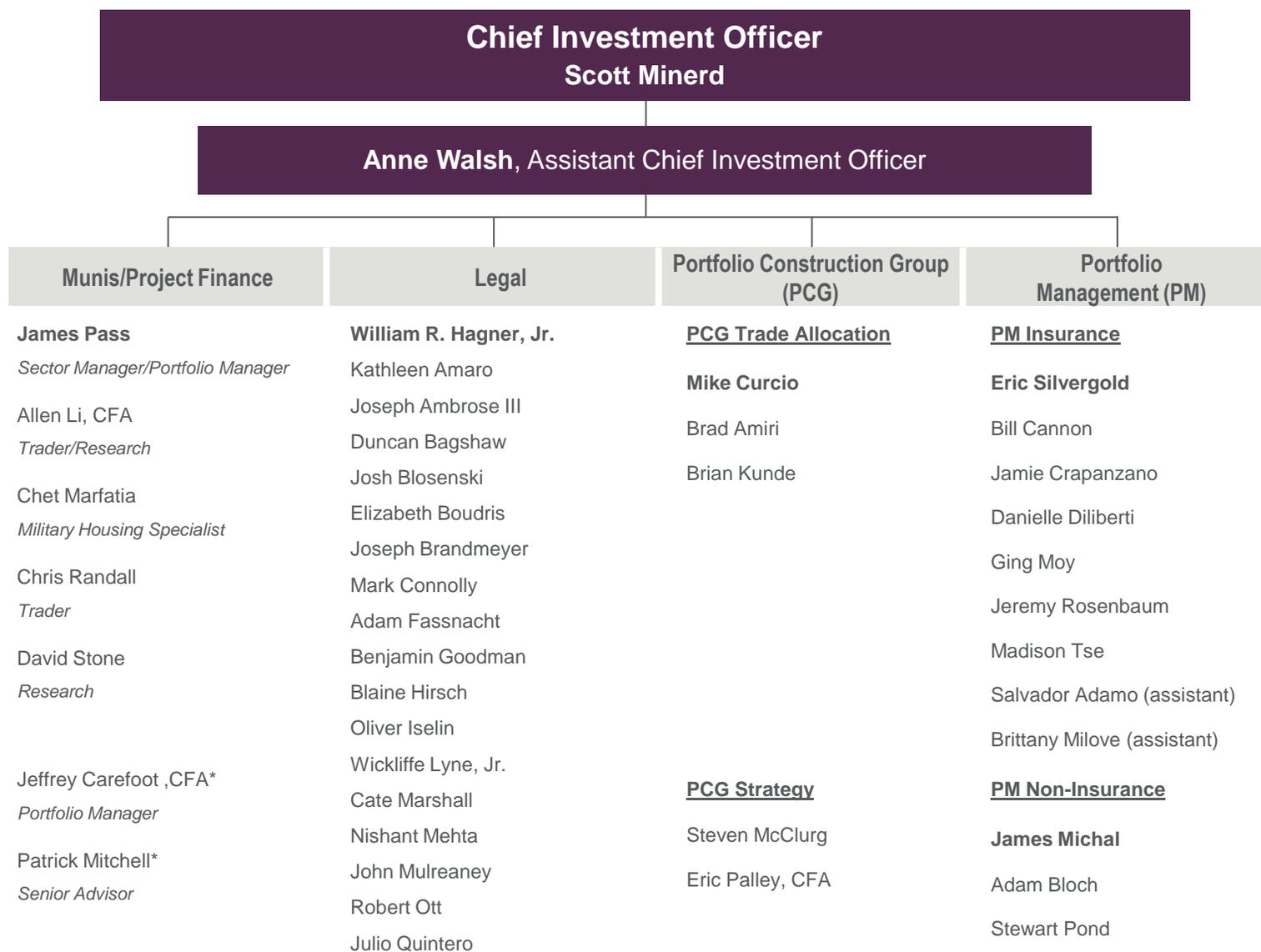
- Manage and sub-advise
- Affiliated with Guggenheim Partners, with greater than \$170 billion in assets under management¹, and more than 2,200 professionals in offices worldwide

¹Guggenheim Partners' assets under management figure is updated as of 12.31.2012 and includes consulting services for clients whose assets are valued at approximately \$37 billion.



Investment Team, Philosophy and Process

Key Investment Professionals – Fixed Income - Municipals



*Additional resources

Municipal Investment Philosophy

- Macroeconomic data is critical to provide insight on sector positioning and fiscal matters
- Safety of principal via structural or legal protections is a characteristic of superior investments
- Fundamental research can separate mispriced or misclassified securities from traditional tax-exempt securities
- A large number of small transactions contributes to inefficiencies in the market which can be uncovered by experienced professionals
- Comprehensive credit analysis allows us to secure a margin of safety at the initial price to provide downside protection

Our goal of rigorous credit research and an opportunistic approach identifies the most attractive investments

Municipal Markets – Our Approach

- Guggenheim has a team of highly experienced professionals dedicated to working in the municipal sector
- Municipal holdings equal approximately \$9.5 billion or approximately 6.6% of assets under management*
- Municipal holdings include:
 - General Obligation (GO) and Revenue Bonds
 - Build America Bonds (BAB)
 - Qualified School Construction Bonds (QSCB)
- Holdings are diversified regionally, by sector and by repayment source
- Areas of our municipal expertise include, among others:
 - Structuring fixed income portfolios
 - Designing optimal cash management strategies
 - Crafting liability driven investment solutions
 - Developing direct bond purchase programs
 - Understanding the American Recovery and Reinvestment Act of 2009 (ARRA)
- Research is the cornerstone of our municipal philosophy as we utilize a bottom-up approach conducting both financial and legal reviews

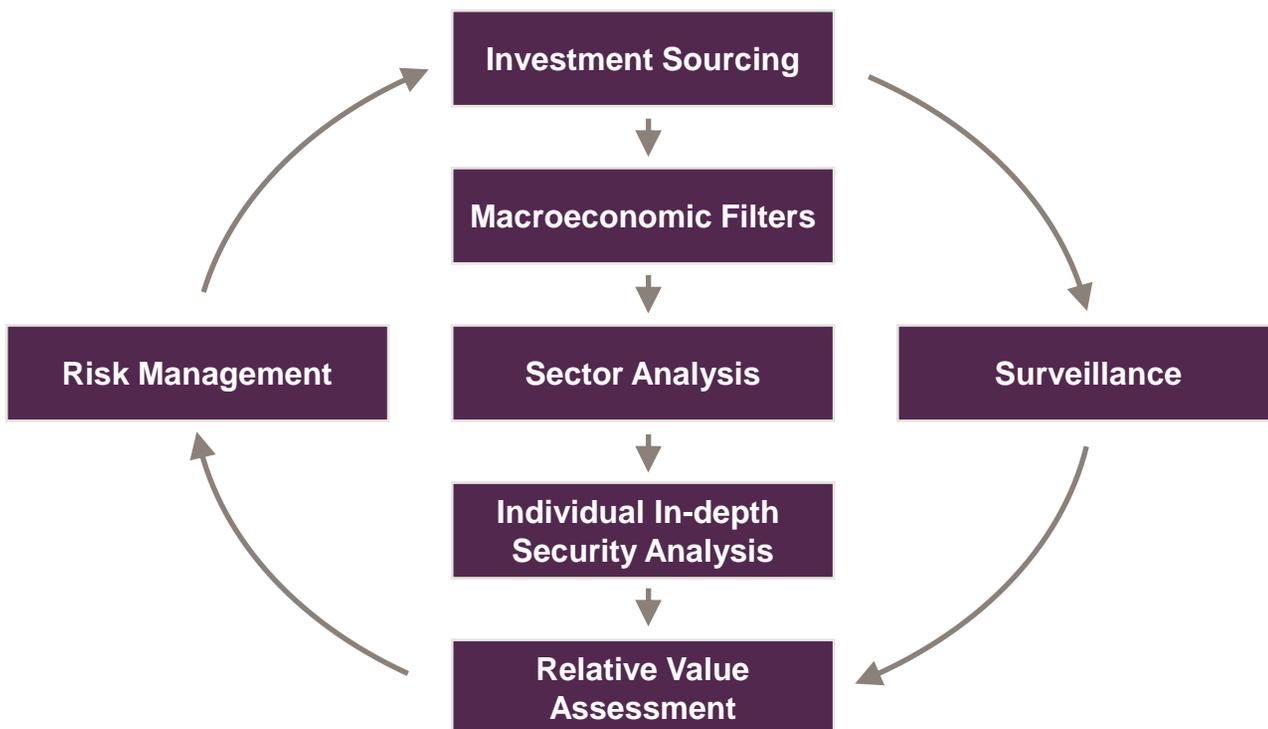
Source: Guggenheim Investments

*Data as of 12.31.2012

Detailed Municipal Due Diligence: Bottom-Up Security Selection

Bottom-Up Security Selection with a Political View

The cornerstone of our investment process is bottom-up security selection.



Investment Sourcing

- We seek to create unique investments through co-design and reverse inquiry for our portfolios

Macroeconomic Filters

- Comprehensive assessment of the market environment determines our focus

Intra-Sector Analysis

- Analyze revenue stream
- Assess appropriate risk-adjusted spread
- Compare proposed investment to other alternatives
- Consider political landscape

Individual Security In-Depth Analysis

- Portfolios are built one bond at a time employing bottom-up security analysis

Relative Value Assessment

- Asset yield curve exposure
- Determine cash flow projections
- Assess appropriate risk-adjusted spreads and compare to alternatives
- Decompose spreads to find securities we believe have the best value

Risk Management Process

Risk management is a primary focus throughout our entire investment process. We utilize qualitative and quantitative tools¹ to understand portfolio risks and opportunities. Our approach allows us to efficiently centralize and share information across all of our teams.

Investment	
Credit Analysis	Due diligence on each company focuses on the risk related to the investment from cash flow, seniority of payments, covenants, etc.
Legal Analysis	Detailed review of all relevant credit and operating documentation where appropriate.
Investment Committee	Debates issues presented by analysts related to credit worthiness and risk/reward characteristics. This process is highly iterative. We typically discuss investments 4-6x before taking action.
Portfolio Managers	Evaluate each security individually, comparing risk/reward characteristics against individual client guidelines. Credit, liquidity, event & compliance risks are factored into each investment decision.
Chief Investment Officer	Ultimate responsibility for all portfolios, overseeing all risk and performance characteristics.

Operational & Compliance	
Trade Settlement	Confirms trades with executing broker prior to entering trades in portfolio management system.
Custodian Reconciliation	Automated tool used with each client's custodian to capture position breaks. Any breaks are monitored until cleared and comments are maintained in report.
Operations	Responsibilities include: account setup, portfolio monitoring, security setup & pricing, broker monitoring, trade support & settlement, corporate actions, reconciliations, performance reporting, billing & certain administrative functions.
Legal/ Compliance	Legal and compliance oversight for our Investment Management and Operations Services, and reporting line directly to the General Counsel of Guggenheim Investments.
Chief Operating Officer	Ultimate responsibility for all of the non-investment activities of the Firm.

¹Quantitative tools used: BlackRock Solutions®, Bond Edge®, Bloomberg®, and YieldBook®

Please note: Legal/Compliance has a reporting line directly to the General Counsel of Guggenheim Investments. Trade Settlement, Custodian Reconciliation and Operations have a reporting line to the COO.

Strategic Municipal Investment Factors

Credit Issues

- Focus on varying security pledges
- Understand the relationship between the capital and operating budgets, respectively
- Analyze and review existing exposure to interest rate swaps and counterparties
- Monitor ongoing fiscal matters between the federal government and the states

Structure

- Prefer dedicated revenue stream vs. appropriation debt
- Favor bonds with stand alone ratings over insured bonds
- Focus on capital structure with a senior lien preference

Duration

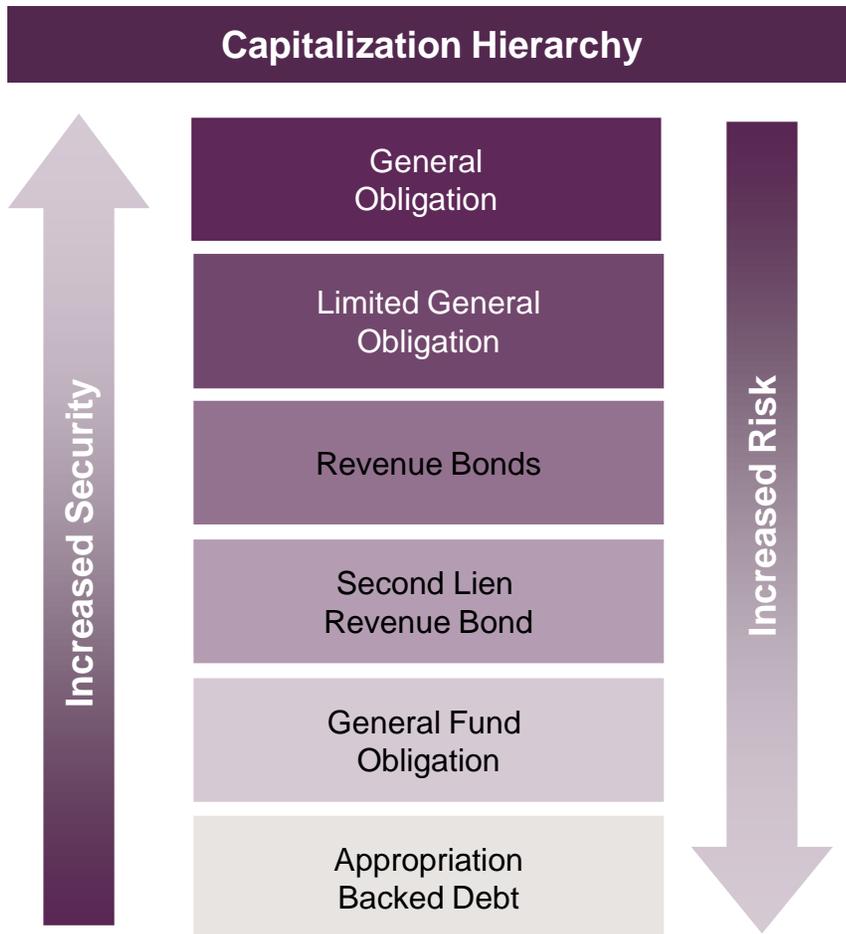
- Utilize Guggenheim macro economic forecast
- Different strategies (neutral/overweight) based upon tax situations and underwriting cycle
- Acknowledge current tax-exempt absolute yields, and traditional lagging effect
- Impact of redemption features

Intangibles

- Concentration of issuers
- Investor demand for diversification
- Serial vs. term bonds
- Relationship between tax-exempt and taxable yield curves

Municipal Bonds: All Bonds are not Created Equal

Invest Across the Entire Capital Structure



Investment Strategy

- Invest as high in the capital structure as possible while maintaining risk/reward objectives
- Identify issuers with the following characteristics:
 - Strong management
 - Prudent debt management policies
 - Adequate debt capacity and demonstrated debt service coverage
 - Growth opportunities
- Target issuers with strong “hard” asset protection
- Evaluate asset and legal conditions to determine potential recovery scenarios
- Identify capital arbitrage opportunities where a disconnect between pricing of securities within the same capital structure exists

Additional Municipal Investment Factors

Default History

- Strong credit quality reflected in default history and ratings
 - Ability to file bankruptcy varies state-by-state
 - Understanding the difference between Chapter 9 and Chapter 11
-

Diversification

- Represents a departure from core risk
 - Over 1.5mm securities issued by over 100,000 municipal issuers
 - Challenges exist as municipal issuance is dominated by certain large states
-

Lower Correlation

- Tax-exempt municipal bonds exhibit lower correlation to other fixed income asset classes
 - All municipal bonds are not created equal as mispriced securities can be identified
-

Performance Characteristics

- Lower yield volatility compared with taxable interest rate markets
- Directional performance
- Lack of financing alternative for issuers

Municipal Sector Scorecard

Tax-Supported	GPAM View *
State	Like
State Appropriation, Lease & Pension	Neutral
Local	Like
Appropriation, Lease & Pension	Strongly Dislike
Dedicated Tax	Like

Revenue	GPAM View*
Transportation	
State	Like
Local	Neutral
Toll-way	Neutral
Airport	Like
Education	
Higher Education	
Private	Neutral
Public	Like
Healthcare	
Private	Neutral
Public	Like
Tobacco	Strongly Dislike
Utility (includes Water, Sewer & Electric)	Like
Housing	
Single	Like
Multi	Neutral
Military	Like

* Subject to change; GPIM is Guggenheim Partners Investment Management



Investment Performance

Taxable Municipal Sector Performance As of 02.28.2013

Description

Seeks current income and capital appreciation through investments in BBB and above rated securities original issues and secondary purchases of taxable municipal bonds.

Highlights

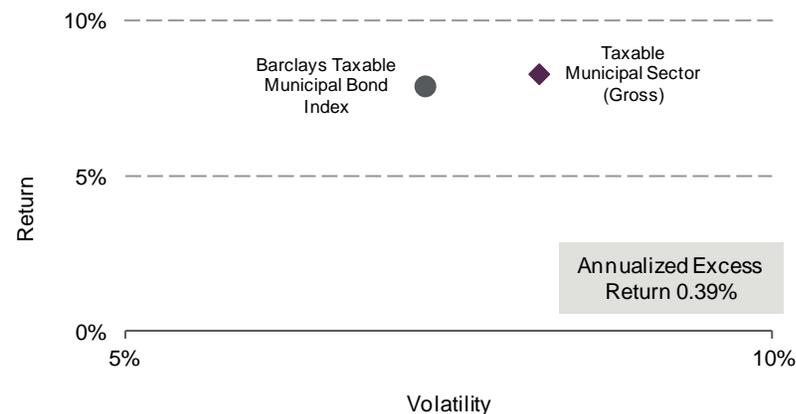
- An early and significant participant in this market with expertise in the Build America Bond (“BAB”) and Qualified School Construction Bond (“QSCB”) segment of municipal investing
- Securities are likely to have low correlation to other fixed income asset classes
- Opportunity to gain exposure to high quality securities that provide the potential for returns in-line with single B corporate bonds
- Extensive list knowledge developed by working closely with the Treasury to refine the BAB and QSCB program to the benefit of investors

Total Assets as of 02.28.2013

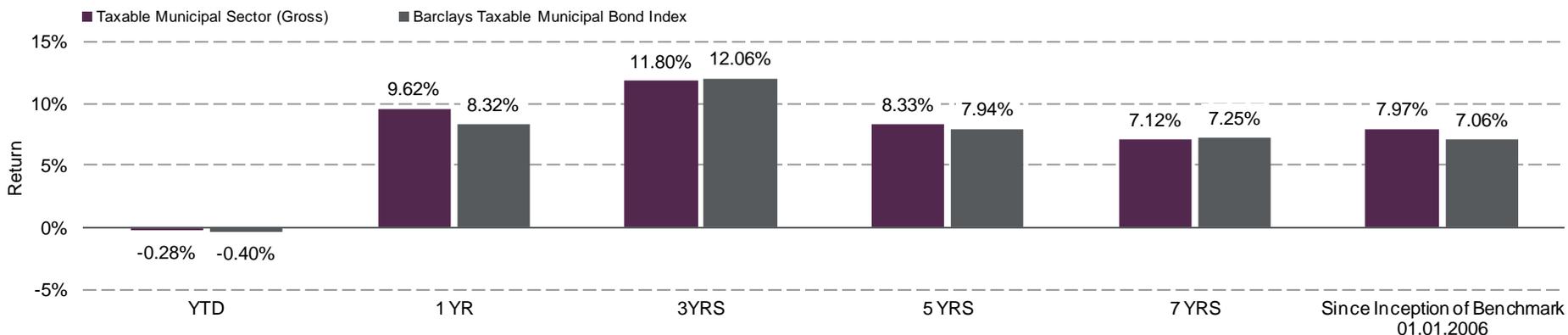
- Assets by Security: \$7.5 billion

Performance Start Date: 01.01.2002

Return vs. Volatility¹



Returns



¹Return vs. Volatility is calculated by using the shorter time period of: a) the returns since inception or, b) the returns for the previous five years.

Sectors do not represent an investable strategy and their returns are not representative of a client account. Taxable Municipal Sector returns are comprised of Taxable Municipal securities and related derivative instruments purchased for client accounts, regardless of investment mandate. Sector returns are calculated by beginning asset weighting each security and adjusting it for security flows. Sector returns do not reflect the impact of cash, may exclude the reinvestment of income and other earnings, include transaction costs, and do not reflect the impact of fees or expenses. The Taxable Municipal Sector contains securities purchased for clients of Guggenheim Partners Investment Management, LLC for periods after June 30, 2012 and Guggenheim Partners Asset Management, LLC for prior periods. Please note, on June 30, 2012, Guggenheim Partners Asset Management, LLC was renamed Guggenheim Partners Investment Management, LLC and also consolidated assets from Guggenheim Investment Management, LLC. Past performance does not guarantee future returns. Performance numbers for time periods greater than one year are annualized. All performance is expressed in US dollars. For comparison purposes, each sector is measured against a comparative index. Index Data Source: RIMES. The information shown is supplemental to the GIPS firm.

Taxable Municipal Sector – Monthly Return History

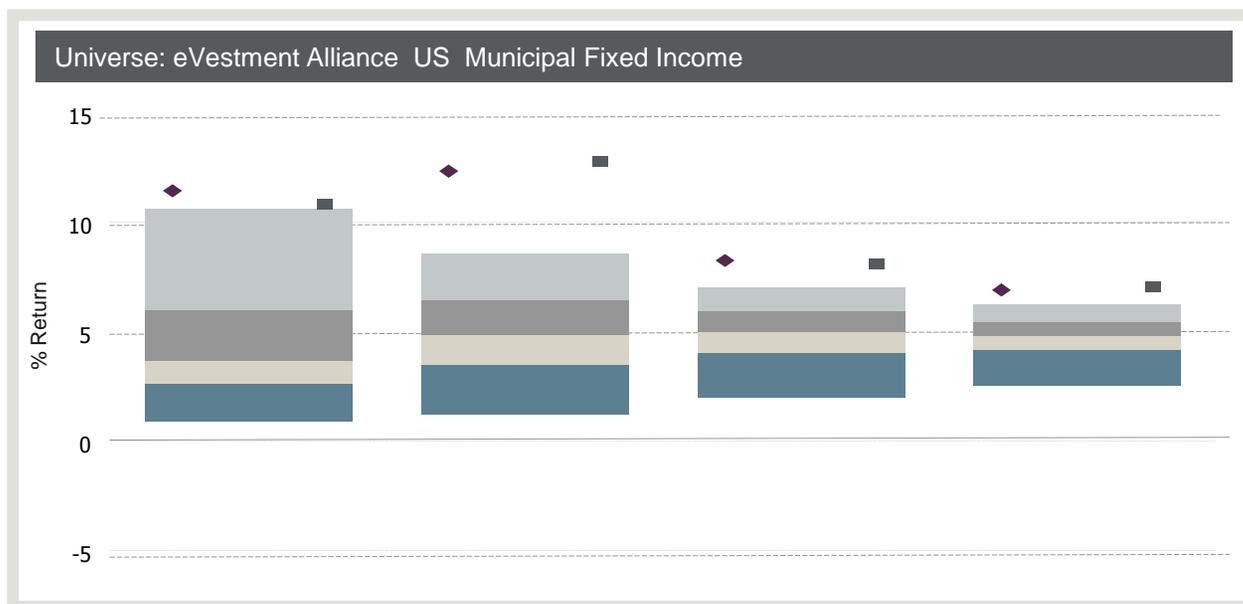
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD	
Taxable Municipal Sector (Gross)	2003	-3.90%	1.56%	-1.43%	2.56%	0.55%	0.55%	-2.44%	2.84%	9.82%	-1.96%	-0.42%	1.91%	9.35%
	2004	1.52%	2.33%	2.25%	-6.84%	-0.82%	1.02%	1.76%	5.24%	1.44%	1.26%	-2.41%	2.72%	9.32%
	2005	3.55%	-1.93%	-0.55%	3.66%	3.10%	1.46%	-2.66%	2.95%	-3.02%	-2.36%	0.51%	2.59%	7.17%
	2006	-0.90%	0.91%	-3.72%	-2.19%	-0.49%	0.34%	2.07%	3.21%	1.77%	1.08%	2.52%	-1.97%	2.41%
	2007	-1.03%	3.09%	-0.95%	0.68%	-1.86%	-1.25%	2.84%	0.08%	0.28%	1.34%	3.28%	-1.58%	4.83%
	2008	1.11%	-0.06%	0.40%	-1.47%	-2.14%	2.70%	-0.18%	2.09%	-0.10%	-10.91%	8.37%	0.57%	-0.69%
	2009	-1.38%	-0.11%	1.11%	-1.60%	3.13%	1.83%	1.63%	2.03%	2.16%	-0.62%	1.10%	-3.60%	5.62%
	2010	2.24%	0.58%	-0.03%	2.69%	1.05%	1.20%	0.43%	3.59%	-0.14%	-1.32%	-1.38%	-0.90%	8.19%
	2011	-0.30%	1.37%	0.39%	2.45%	2.81%	-0.83%	2.80%	2.11%	3.47%	-0.74%	1.44%	1.46%	17.58%
	2012	2.51%	0.54%	0.06%	1.80%	2.86%	-0.50%	2.23%	0.15%	-0.04%	0.18%	1.08%	0.09%	11.44%
2013	-0.28%	1.66%											-0.28%	
Barclays Taxable Municipal Bond Index	2006	-1.02%	0.89%	-2.74%	-1.90%	0.08%	0.45%	1.66%	2.68%	1.58%	0.92%	1.86%	-1.62%	2.73%
	2007	-0.59%	2.93%	-0.78%	0.63%	-1.53%	-0.68%	2.01%	0.17%	0.72%	1.16%	2.65%	-0.49%	6.27%
	2008	1.81%	0.11%	0.73%	-1.94%	-1.10%	0.97%	-0.40%	1.46%	-0.34%	-7.09%	4.50%	-2.50%	-4.15%
	2009	2.19%	-0.57%	0.60%	-2.83%	4.29%	1.30%	1.14%	2.38%	2.38%	-1.08%	1.12%	-3.47%	7.42%
	2010	2.59%	0.46%	0.35%	3.06%	1.02%	0.51%	0.83%	4.06%	-0.19%	-1.84%	-1.89%	-1.51%	7.48%
	2011	0.08%	1.85%	0.47%	3.06%	3.39%	-1.17%	4.05%	1.71%	4.36%	-1.32%	0.93%	1.52%	20.42%
	2012	2.89%	0.55%	-0.35%	1.63%	2.18%	-0.62%	2.83%	0.03%	-0.27%	0.47%	1.36%	-0.27%	10.86%
	2013	-0.40%	1.48%											-0.40%

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Taxable Municipal Sector – Manager Universe Comparisons As of 12.31.2012

◆ Guggenheim: Taxable Municipal Sector (Gross)

■ Barclays Taxable Municipal Bond Index



	1 Year	3 Years	5 Years	Since Inception of Benchmark 01.01.2006
5th percentile	10.59	8.57	7.03	6.26
25th percentile	5.98	6.43	5.92	5.42
Median	3.66	4.82	4.99	4.80
75th percentile	2.59	3.48	4.02	4.16
95th percentile	0.89	1.25	2.02	2.55
Guggenheim: Taxable Municipal Sector - Percent Returns (Gross)	11.44	12.34	8.26	6.91
Barclays Taxable Municipal Bond Index	10.86	12.79	8.12	7.07
Guggenheim: Taxable Municipal Sector - Percentile Ranks	3	1	2	3
# of Observations	121	115	109	104

Guggenheim Partners Investment Management (“GPIM”) is a registered investment adviser and serves as the adviser to the Taxable Municipal Sector. GPIM is included in the GIPS compliant firm, Guggenheim Investments Asset Management, and is also a part of Guggenheim Investments. Sectors do not represent an investable strategy and their returns are not representative of a client account. The Taxable Municipal Sector returns are comprised of all Taxable Municipals securities and related derivative instruments purchased for client accounts, regardless of investment mandate. Sector returns are calculated by beginning asset weighting each security and adjusting it for security flows. Sector returns do not reflect the impact of cash, may exclude the reinvestment of income and other earnings, include transaction costs, and do not reflect the impact of fees or expenses. Please note, on June 30, 2012, GPAM was renamed Guggenheim Partners Investment Management, LLC (GPIM) and also consolidated assets from Guggenheim Investment Manager, LLC (“GIM”). Past performance does not guarantee future returns. Performance numbers for time periods greater than one year are annualized. All performance is expressed in US dollars. For comparison purposes, each sector is measured against a comparative index. Index Data Source: RIMES. Universe Ranking Data Source: eVestment Alliance. Data taken from eVestment Alliance on 01.23.2013. The information shown is supplemental to the GIPS firm.

Tax-Exempt Municipal Sector Performance As of 02.28.2013

Description

Represents mostly general obligation bonds and revenue bonds held in client accounts and funds which allow these securities.

Highlights

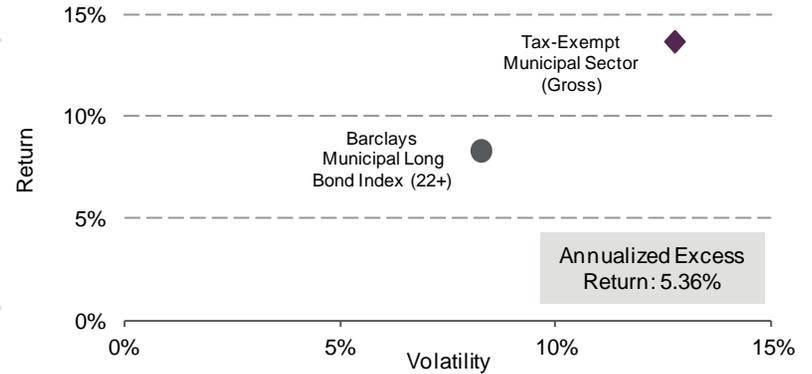
- Proceeds limited to use by provisions contained in the Tax Code, but the main purpose is generally financing infrastructure
- Majority of the debt issued is tax-supported debt, including ad valorem taxes, sales taxes and others
- Aggregate volume of municipal bonds per year has been approximately \$400 billion

Total Assets as of 02.28.2013

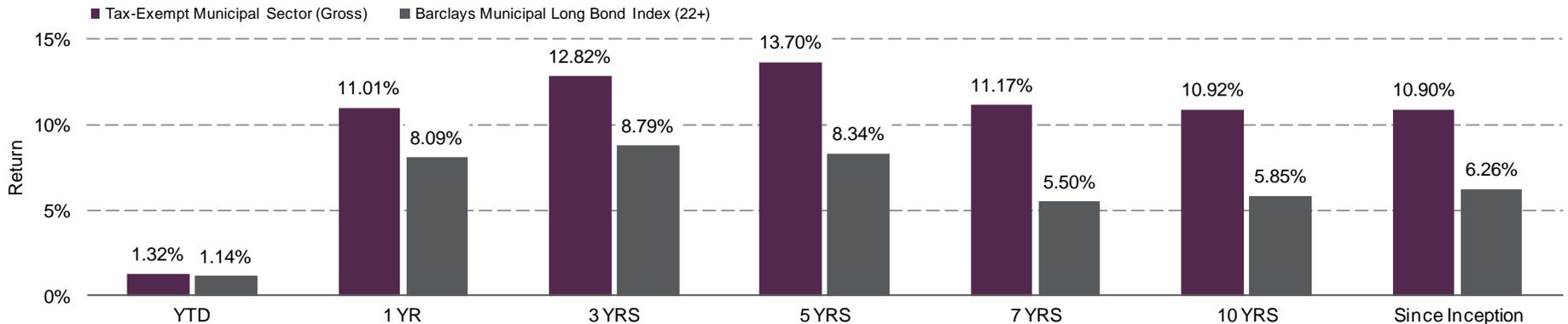
- Assets by Security: \$1.5 billion

Performance Start Date: 01.01.2002

Return vs. Volatility¹



Returns



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Tax-Exempt Municipal Sector – Monthly Return History

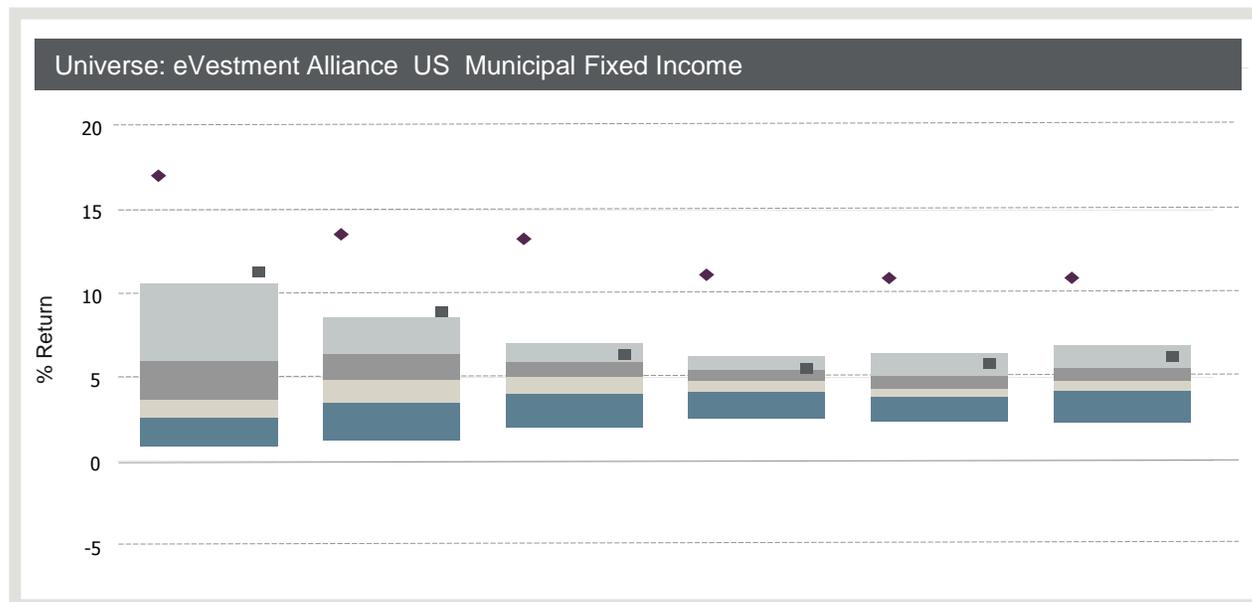
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD	
Tax-Exempt Municipal Sector (Gross)	2003	0.63%	0.74%	1.49%	-2.23%	2.75%	0.15%	-2.13%	-1.16%	4.93%	0.00%	2.87%	2.48%	10.77%
	2004	1.08%	1.50%	2.52%	-2.77%	0.31%	1.93%	1.99%	3.20%	1.33%	1.87%	-0.07%	3.49%	17.49%
	2005	1.08%	-0.51%	-0.16%	-0.23%	1.13%	1.59%	-0.86%	1.36%	-1.24%	0.68%	0.53%	0.22%	3.59%
	2006	1.26%	-0.20%	0.11%	2.04%	0.22%	0.42%	6.76%	-2.48%	1.42%	0.90%	1.70%	-1.50%	10.89%
	2007	-0.58%	2.65%	-0.71%	0.62%	-1.24%	-0.48%	2.20%	-3.13%	0.81%	0.40%	0.49%	0.32%	1.24%
	2008	1.93%	-2.47%	1.50%	-0.14%	0.09%	-0.98%	0.30%	0.27%	-0.50%	1.49%	0.72%	1.11%	3.29%
	2009	1.70%	0.99%	0.30%	2.38%	0.87%	-1.90%	1.88%	4.29%	20.09%	-7.06%	-1.51%	1.16%	23.32%
	2010	1.37%	1.87%	1.39%	5.41%	0.19%	-1.58%	1.83%	8.30%	0.10%	-3.06%	-7.66%	-3.82%	3.42%
	2011	-1.24%	3.83%	-1.89%	2.66%	3.07%	0.63%	1.59%	3.62%	3.87%	-0.84%	0.38%	3.71%	20.92%
	2012	6.65%	0.15%	-1.69%	2.37%	2.43%	-0.45%	3.56%	0.51%	1.05%	0.67%	3.76%	-2.83%	17.03%
	2013	1.05%	0.27%											1.32%
Barclays Municipal Long Bond Index (22+)	2003	-0.53%	1.53%	-0.03%	0.70%	2.94%	-0.39%	-4.82%	0.77%	3.36%	-0.21%	1.80%	1.10%	6.13%
	2004	0.88%	1.58%	-0.05%	-3.15%	-0.86%	0.40%	1.61%	2.57%	0.87%	1.27%	-0.71%	1.81%	6.27%
	2005	1.93%	0.08%	-0.36%	1.86%	1.21%	0.93%	-0.07%	1.25%	-0.98%	-0.80%	0.51%	1.32%	7.06%
	2006	0.16%	1.40%	-0.80%	-0.10%	0.37%	-0.40%	1.52%	1.87%	0.83%	1.00%	1.32%	-0.51%	6.82%
	2007	-0.28%	1.71%	-0.67%	0.42%	-0.65%	-1.08%	0.60%	-2.26%	2.34%	0.55%	-0.02%	-0.11%	0.46%
	2008	-0.10%	-7.66%	3.91%	3.04%	0.83%	-1.94%	-0.73%	1.00%	-8.01%	-4.12%	-1.71%	0.51%	-14.68%
	2009	4.61%	2.73%	-0.16%	3.63%	2.36%	-1.46%	1.36%	4.32%	6.63%	-3.38%	-0.31%	1.33%	23.43%
	2010	0.48%	1.04%	0.48%	1.97%	0.64%	-0.19%	1.11%	3.03%	0.30%	-0.24%	-3.82%	-3.46%	1.12%
	2011	-1.54%	1.71%	-0.75%	2.53%	3.10%	0.77%	1.31%	2.20%	2.74%	-0.50%	0.13%	2.39%	14.88%
	2012	3.79%	0.30%	-0.29%	1.33%	1.39%	-0.07%	2.31%	0.23%	0.67%	0.58%	2.49%	-1.88%	11.26%
	2013	0.85%	0.28%											1.14%

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Tax-Exempt Municipal Sector – Manager Universe Comparisons As of 12.31.2012

◆ **Guggenheim: Tax-Exempt Municipal Sector (Gross)**

■ **Barclays Municipal Long Bond Index (22+)**



1 Year 3 Years 5 Years 7 Years 10 Years Performance Start Date 01.01.2002

5th percentile	10.59	8.57	7.03	6.26	6.46	6.93
25th percentile	5.98	6.43	5.92	5.42	5.07	5.52
Median	3.66	4.82	4.99	4.80	4.34	4.76
75th percentile	2.59	3.48	4.02	4.16	3.82	4.20
95th percentile	0.89	1.25	2.02	2.55	2.37	2.31
Guggenheim: Tax-Exempt Municipal Sector - Percent Returns (Gross)	17.03	13.54	13.27	11.13	10.93	10.95
Barclays Municipal Long Bond Index (22+)	11.26	8.93	6.36	5.56	5.84	6.25
Guggenheim: Tax-Exempt Municipal Sector - Percentile Ranks	1	1	1	1	1	1
# of Observations	121	115	109	104	82	75

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Build America Bonds (“BABs”) Sector Performance As of 02.28.2013

Description

Represents primarily investment grade taxable municipal bonds that carry special tax credits for either the issuer or the bondholder held in client accounts and funds which allow these securities.

Highlights

- Since the inception of the Build America Bond Program in March 2009, GPIM's BAB Investment Strategy has generated returns greater than **65% (on a cumulative basis)**
- Merrill Lynch, Wells Fargo and Barclays have all independently established a BAB Index in 2009. Although each BAB Index has a different inception date, GPIM's BAB Investment Strategy has produced annualized excess returns as follows:

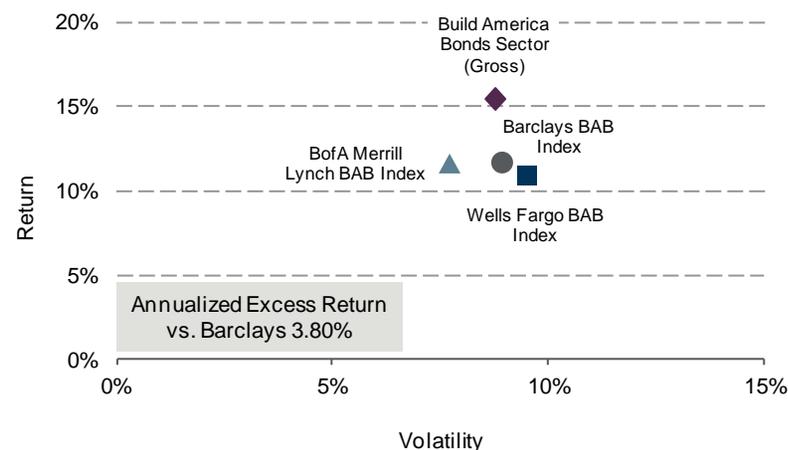
Annualized Excess Returns Since Inception	3.86%	Benchmark BofA Merrill Lynch BAB Index (Inception May 09)
	3.80%	Barclays BAB Index (Inception Oct 09)
	4.62%	Wells Fargo BAB Index (Inception Jun 09)

Total Assets as of 02.28.2013

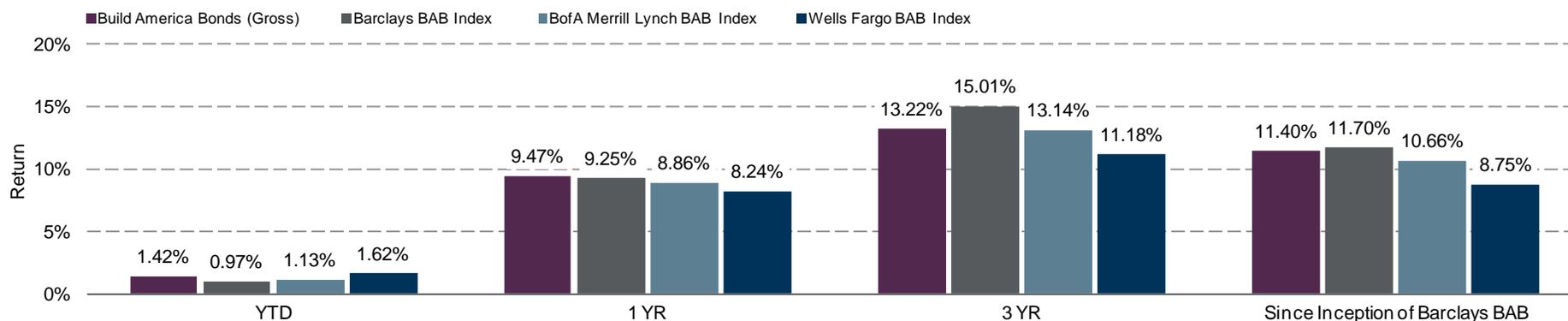
- BABs Assets by Security: \$3.3 billion

Performance Start Date: 04.01.2009

Return vs. Volatility¹



Returns



¹Return vs. Volatility is calculated by using the shorter time period of: a) the returns since inception or, b) the returns for the previous five years.

Performance for Guggenheim's BABs excludes Qualified School Construction Bonds. Sectors do not represent an investable strategy and their returns are not representative of a client account. BAB's Sector returns are comprised of BAB's securities and related derivative instruments purchased for client accounts, regardless of investment mandate. Sector returns are calculated by beginning asset weighting each security and adjusting it for security flows. Sector returns do not reflect the impact of cash, may exclude the reinvestment of income and other earnings, include transaction costs, and do not reflect the impact of fees or expenses. The BABs Sector contain securities purchased for clients of Guggenheim Partners Investment Management, LLC for periods after June 30, 2012 and Guggenheim Partners Asset Management, LLC for prior periods. Please note, on June 30, 2012, Guggenheim Partners Asset Management, LLC was renamed Guggenheim Partners Investment Management, LLC and also consolidated assets from Guggenheim Investment Management, LLC. Past performance does not guarantee future returns. Performance numbers for time periods greater than one year are annualized. All performance is expressed in US dollars. For comparison purposes, each sector is measured against a comparative index. Index Data Source: Bloomberg, RIMES. The information shown is supplemental to the GIPS firm.

Build America Bonds Sector – Monthly Return History

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	YTD	
Build America Bonds Sector (Gross)	2009			12.86%	-3.71%	1.22%	4.39%	3.02%	2.78%	-1.78%	1.07%	-3.25%	16.79%	
	2010	2.88%	0.82%	0.78%	2.92%	1.25%	1.43%	0.33%	3.80%	-0.23%	-1.68%	-1.42%	-0.31%	10.94%
	2011	0.01%	1.91%	0.35%	2.96%	3.26%	-0.93%	3.66%	2.29%	4.48%	-1.09%	0.94%	1.44%	20.88%
	2012	2.28%	0.26%	-0.27%	1.64%	2.43%	-0.46%	2.40%	0.47%	-0.17%	0.46%	1.01%	0.19%	10.68%
	2013	-0.18%	1.60%											1.42%
Barclays Build America Bonds Index	2009									-3.22%	0.57%	-4.89%	-7.43%	
	2010	3.23%	0.39%	1.06%	4.71%	0.23%	0.88%	0.75%	5.33%	-1.07%	-3.36%	-2.63%	-0.72%	8.75%
	2011	0.02%	2.58%	0.14%	4.03%	4.44%	-1.74%	5.73%	1.96%	6.17%	-2.13%	1.19%	1.78%	26.53%
	2012	4.56%	0.30%	-1.16%	1.85%	2.65%	-0.74%	4.01%	-0.14%	-0.63%	0.81%	1.77%	-0.40%	13.46%
	2013	-0.54%	1.53%											0.97%
BofA Merrill Lynch Build America Bonds Index	2009				-3.22%	-0.46%	5.24%	3.69%	2.64%	-2.32%	0.86%	-4.35%	1.67%	
	2010	3.12%	0.44%	0.58%	3.48%	1.05%	1.02%	0.53%	4.68%	-0.55%	-2.25%	-2.15%	-1.54%	8.47%
	2011	0.09%	2.07%	0.39%	3.28%	3.67%	-1.37%	4.41%	2.14%	5.06%	-1.61%	1.05%	1.63%	22.60%
	2012	3.14%	0.45%	-0.50%	1.75%	2.48%	-0.68%	3.15%	0.00%	-0.40%	0.48%	1.41%	-0.22%	11.52%
	2013	-0.42%	1.56%											1.13%
Wells Fargo Build America Bonds Index	2009					2.68%	0.73%	3.97%	2.85%	-2.70%	0.24%	-4.86%	2.62%	
	2010	4.27%	0.17%	-0.83%	3.63%	2.31%	-0.69%	-2.43%	6.41%	-0.53%	-3.55%	-3.32%	-2.31%	2.60%
	2011	0.57%	3.53%	-1.40%	3.82%	4.81%	-1.87%	5.64%	-0.24%	6.37%	-2.09%	1.67%	1.46%	24.12%
	2012	3.78%	0.34%	-0.95%	3.00%	2.47%	-1.39%	3.04%	0.73%	-1.89%	0.95%	1.22%	-0.71%	10.92%
	2013	-0.44%	2.07%											1.62%

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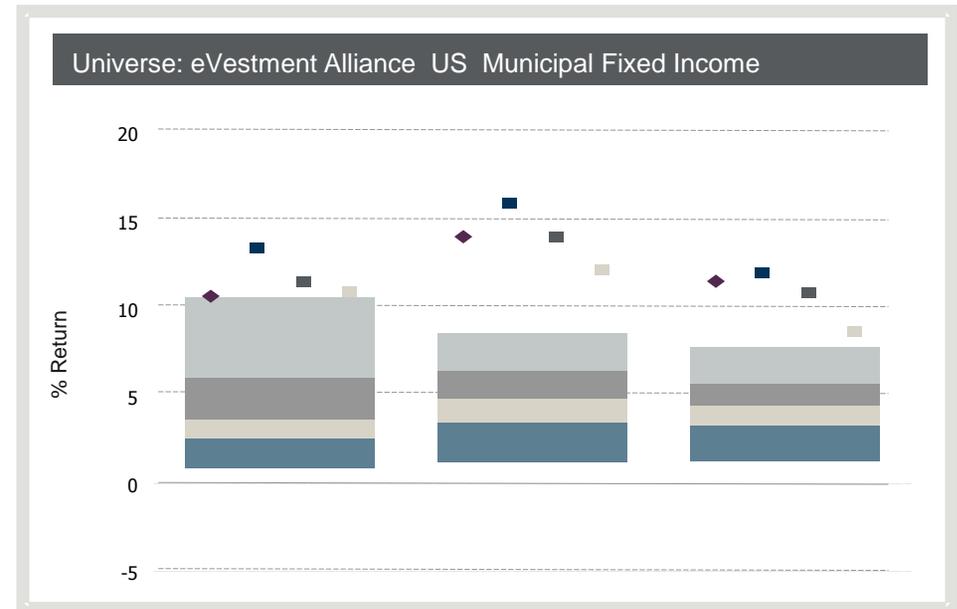
Build America Bonds (“BABs”) Sector – Manager Universe Comparisons As of 12.31.2012

◆ **Guggenheim: Build America Bonds Sector (Gross)**

■ **Barclays Build America Bonds Index**

■ **BofA Merrill Lynch Build America Bonds Index**

■ **Wells Fargo Build America Bonds Index**



	1 Year	3 Years	Since Inception of Barclays Benchmark 10.01.2009
5th percentile	10.59	8.57	7.75
25th percentile	5.98	6.43	5.68
Median	3.66	4.82	4.41
75th percentile	2.59	3.48	3.27
95th percentile	0.89	1.25	1.27
Guggenheim: Build America Bonds Sector- Percent Returns (Gross)	10.68	14.07	11.53
Barclays Build America Bonds Index	13.46	16.01	12.00
BofA Merrill Lynch Build America Bonds Index	11.52	14.04	10.85
Wells Fargo Build America Bonds Index	10.92	12.20	8.68
Guggenheim: Taxable Municipal Sector - Percentile Ranks	5	1	1
# of Observations	121	115	114

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Appendix



Market Conditions and Outlook

Guggenheim Investments Sector Outlook – Spring 2013

Tax-Exempt Municipals Sector Overview

The traditional municipal market is primarily made up of general obligation bonds and revenue bonds that are exempt from federal and state income taxes. Proceeds can be used for a variety of projects as long as such purpose is permitted by provisions contained in the U.S. Tax Code, but generally speaking, the main purpose has been and will continue to be to finance infrastructure. The majority of the debt issued is tax-supported debt, including *ad valorem* taxes, sales taxes and others. Issuers range from states, counties and cities, to private and public higher education institutions, private health care organizations and special purpose entities. Historically, annual volume has been in excess of \$400 billion, although in 2011 and 2012, issuance was approximately \$330 billion and approximately \$372 billion, respectively. Our expectation for 2013 issuance is approximately \$360 billion, which will be driven by refinancings and other trends, which are discussed below.

Tax-Exempt Municipals Sector Current Outlook and Investment Theme

As we move into March, the forward calendar is beginning to build, causing us to project that the weekly issuance will average approximately \$7.0 billion. With bond redemptions slowing, we believe an imbalance may reappear between supply and demand, as retail investors focus on sequestration, other Washington-related drama, and a resilient equity market, thus creating an opportunity to secure attractive risk-adjusted returns. With this increase in supply, Muni-Treasury ratios should increase, particularly the 10-year ratio, while the 30-year ratio remains range-bound, based upon the lack of long-dated municipal supply and other macroeconomic factors. Given this background, our focus remains on "A" rated revenue bonds and, in some cases, "story" bonds rated BBB or less and maturing between 15 and 20 years. Although credit spreads continue to evaporate as the spread between BBB GOs and AAA GOs closed at 12-month lows of approximately 145 basis points in the 10-year range, we believe certain opportunities may appear in the health care and utility sectors, respectively. Finally, our 5 percent coupon preference remains intact, allowing us to receive current income and provide greater protection than the more common 4 percent coupon, although we acknowledge some of the attractiveness has been diminished recently.

Tax-Exempt Municipals Sector Potential Risks

The uncertainty surrounding the resolution of the political economic issues in Washington D.C., along with potential downgrades of both Illinois and Puerto Rico, and the pending takeover of Detroit by the State of Michigan, could offset the improving credit conditions of state and local governments. Increased volatility may be the result of this situation, particularly if threats to tax-exemption materialize while the forward calendar is large. The municipal market, however, as well as the real economy, have both proven to be strong and resilient to the dysfunction of Washington. In addition, greater clarity is beginning to emerge from the courts concerning Stockton, CalPers, and settlements among creditors, but as we have learned in the Jefferson County saga, for every decision that is made, another issue comes to the forefront, causing a seemingly endless process and testing the market's patience.

Source: Guggenheim Partners Investment Management (GPIM)

Guggenheim Investments Sector Outlook – Spring 2013

Taxable Municipals Sector Overview

As with the traditional municipal market, the taxable asset class is primarily made up of general obligation bonds and revenue bonds, with the main purpose of financing infrastructure investments. The taxable municipal bonds are, in most cases, exempt from state income taxes, while the Build America Bonds (BABs) and tax credit bonds are not. In recent years, the aggregate volume of taxable municipal bonds per year has fluctuated due to interest rates and federal programs. According to Bloomberg for example, with the creation of BABs, issuance of taxable municipal bonds exploded and exceeded \$84 billion for calendar year 2009 and over \$100 billion for calendar year 2010. However, since the expiration of the BAB and other federally sponsored programs, taxable municipal issuance has reverted back to historical figures – approximately \$35 billion per year or roughly 10 percent of total municipal issuance. In 2011 and 2012, taxable issuance was approximately \$35 billion and \$38 billion, respectively, and we would expect issuance in 2013 to be approximately \$35 billion, driven primarily by private and public universities, health care institutions and special purpose entities.

Taxable Municipals Sector Current Outlook and Investment Theme

As we move into March, fears arising from sequestration will be among the various factors impacting the taxable municipal market. Although we do not expect volume to be significantly higher, even though several high profile issuers may tap the taxable market, such as the State of California, we do expect volatility to increase, driven by the negative headlines highlighting the fiscal impact on issuers related to automatic spending cuts in state and local government aid and the reduction in Build America Bond subsidies caused by sequestration. In addition, confusion could also be the norm in the taxable municipal market if an issuer elects to refinance outstanding Build America Bonds by utilizing an extraordinary redemption provision. Against this framework, we believe attractive opportunities to secure risk-adjusted returns may appear, particularly in small-to-medium size offerings, as we believe refinancings, if any, will be limited. Our focus will remain on public universities, essential service providers, and story bonds, which are supported by a dedicated tax stream with a historical performance. Away from the BABs market, we believe the taxable municipal market will be focusing on both Puerto Rico and Illinois, as both issuers have been active in the taxable market and may return to the market based upon movements in the Treasury market, in particular, if the 10-year breaks out of its current range.

Taxable Municipals Sector Potential Risks

Lost in the fears arising from sequestration has been a revised focus into private student loans and the increasing number of defaults, which have been concentrated among private higher education institutions, whom are active participants in the taxable municipal market. This renewed focus comes at an interesting time, as tuition is now being set for the 2013-2014 academic year by private higher education institutions. Additionally, details are finally emerging in connection with medical exchanges and other Obamacare related programs, impacting another frequent issuer of taxable municipal bonds: private, non-profit health care organizations. Against this backdrop, new federal bonding programs, such as the "America Fast Forward" Program (AFF) will likely draw greater attention to the market in terms of liquidity. Although we do not foresee this AFF Program gaining momentum in Washington, it does cause the spotlight to remain on the nation's infrastructure and raise the question: can state and local governments afford to rebuild roads, bridges and sewers while meeting their pension obligations? As for credit, we continue to believe municipal credit has and will continue to improve, while the headlines focus on Illinois and Puerto Rico, two large issuers that continue to struggle, and the ongoing bankruptcy cases involving Stockton, Jefferson County and San Bernardino.

Source: Guggenheim Partners Investment Management (GPIM)

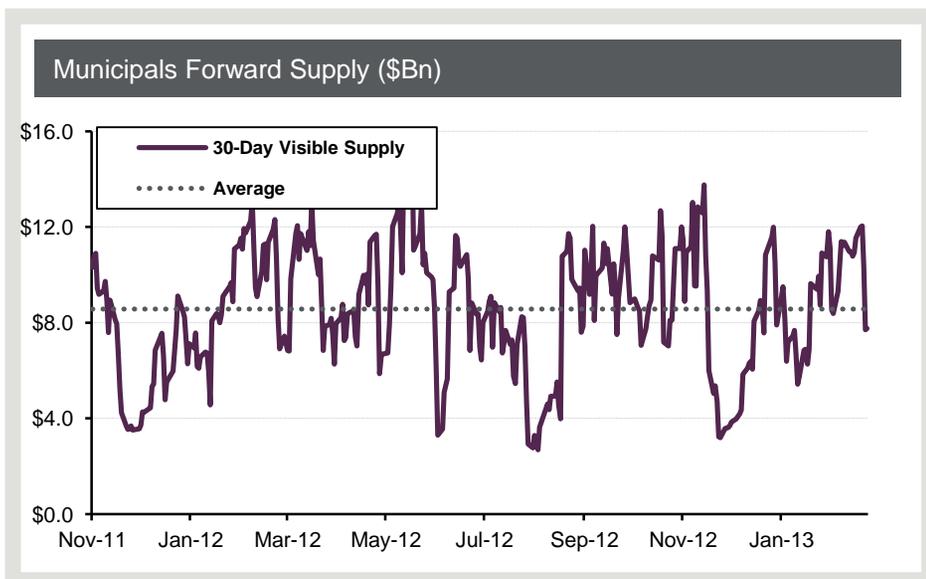
Municipal Market Commentary

- 2013 issuance is approximately \$75.4Bn, reflecting an increase of approximately 7.4% YoY; refunding volume is still the main driver.
- Seasonal factors have impacted the municipal market once again as the yields of the Bond Buyer Municipal Indexes and others have increased by approximately 13% from the YTD lows. (Historically, slowing reinvestments caused by tax season and increased supply are to blame.)
- Detroit Update: An Emergency Fiscal Manager was appointed by the Governor of Michigan; the City Council disputed the Governor's action and ponders its next legal step; and Standard and Poor's raises its credit outlook on Detroit General Obligation Bonds.
- Fund flows have softened throughout the month, but should rebound somewhat in late April, according to historical patterns.
- Up until now, no material impact of sequestration has been evident in the BAB market although April may prove to be different as issuers will begin to receive less than 100 percent of their reimbursement.
- According to the Rockefeller Institute, total tax collections for 22 states were still below levels seen in 2008. In 9 states, the peak to 2012 decline remained in double-digit percentages.

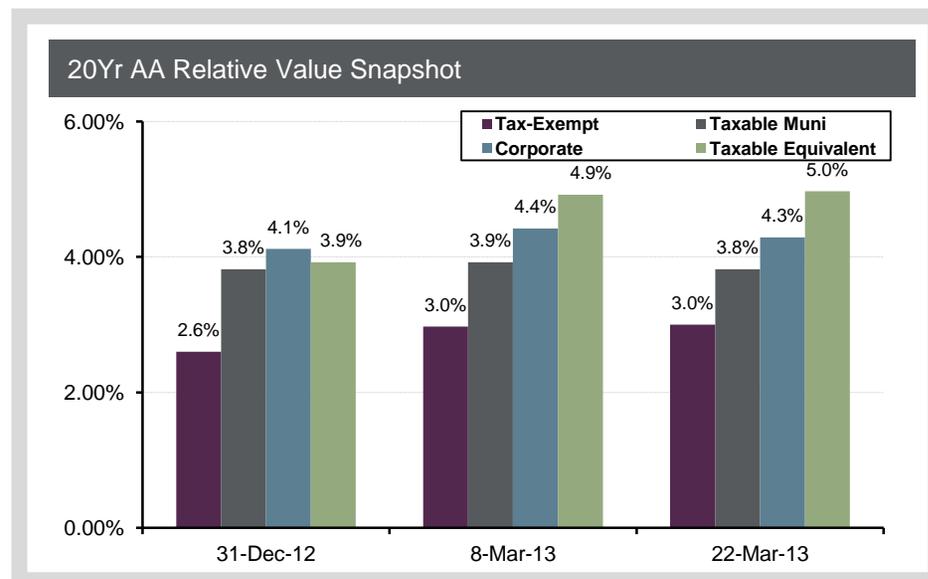
BENCHMARK RATES	12/31/12		03/08/13		03/22/13	
	Spread	Yield	Spread	Yield	Spread	Yield
10yr Treasury	--	1.76%	--	2.04%	--	1.93%
10 Year Swaps	6	1.81%	8	2.14%	14	2.05%
30yr Treasury	--	2.95%	--	3.25%	--	3.15%
30 Year Swaps	(16)	2.77%	(15)	3.11%	(12)	3.01%

TAXABLE MUNICIPALS	12/31/12		03/08/13		03/22/13	
	Spread	Yield	Spread	Yield	Spread	Yield
10yr AAA GO	57	2.30%	66	2.70%	76	2.69%
10yr A GO	157	3.30%	116	3.20%	120	3.13%
30yr AAA GO	77	3.69%	76	4.01%	80	3.95%
30yr A GO	152	4.44%	135	4.60%	148	4.63%

TAX-EXEMPT MUNICIPALS	12/31/12		03/08/13		03/22/13	
	Spread	Yield	Spread	Yield	Spread	Yield
10yr AAA GO	(7)	1.72%	(15)	1.99%	(10)	1.94%
10yr A GO	65	2.44%	46	2.60%	50	2.54%
30yr AAA GO	8	2.83%	(3)	3.08%	9	3.10%
30yr A GO	75	3.50%	63	3.74%	76	3.77%

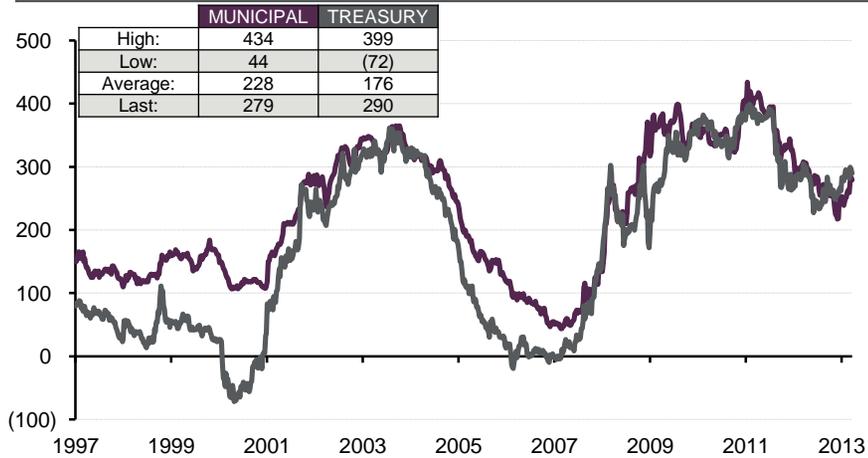


Source: Guggenheim, Bloomberg, TM3 as of 03.22.2013.

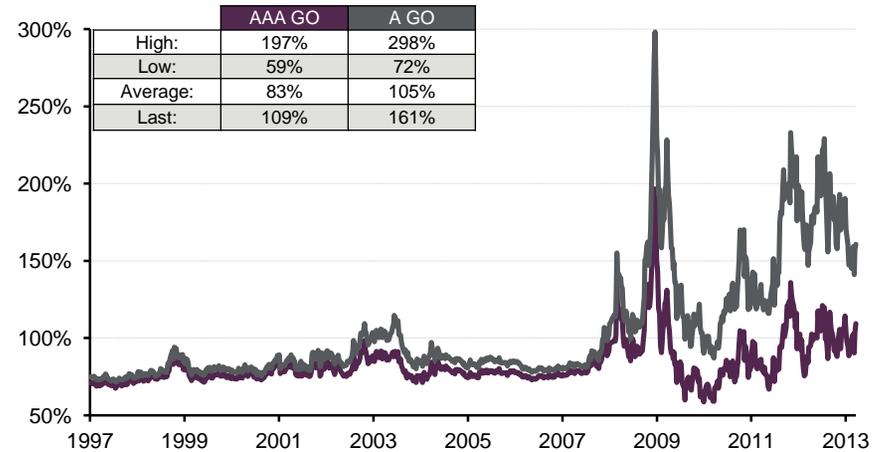


Municipal Market Relative Yields to Treasuries

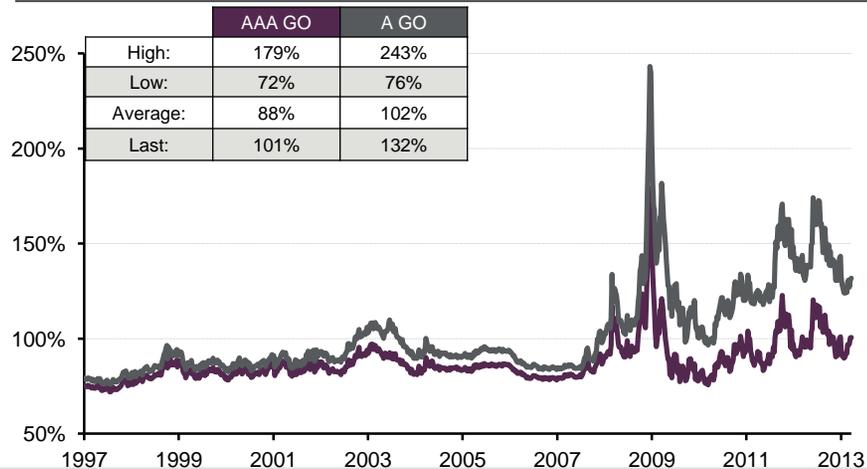
Tax Exempt AAA GOs Municipal Slope vs. Treasury Slope (2s/30s)



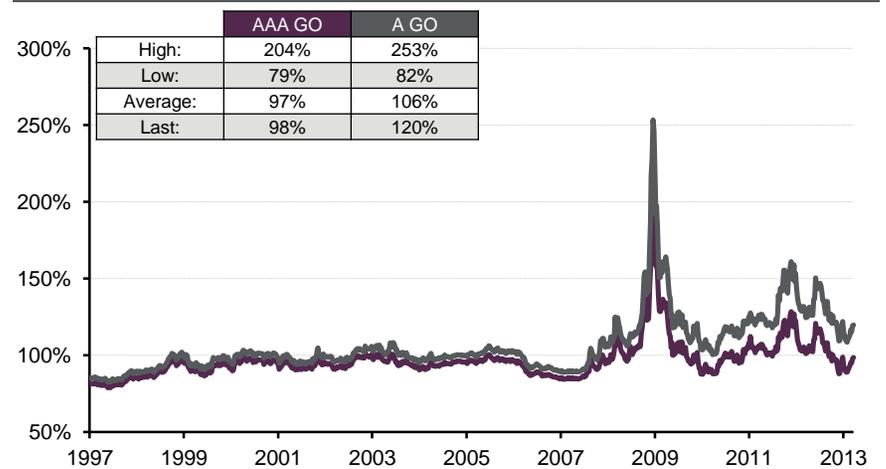
5 Year Municipal Yields / Treasury Yields



10 Year Municipal Yields / Treasury Yields



30 Year Municipal Yields / Treasury Yields



Source: Bloomberg, TM3 as of 03.22.2013.

Taxable Municipal Market: Spread Analysis

10 Yr Taxable Muni Spread Recap by Rating

	AAA	AA	A	BAA
03/01/12	75	85	175	353
04/01/12	55	70	170	350
05/01/12	58	77	173	355
06/01/12	75	100	181	381
07/01/12	70	90	175	360
08/01/12	66	81	166	351
09/01/12	65	75	165	350
10/01/12	67	82	172	357
11/01/12	70	80	165	320
12/01/12	68	78	160	320
01/01/13	57	67	157	322
02/01/13	58	70	125	288
03/01/13	61	66	131	294
CURRENT	52	65	132	295

30 Yr Taxable Muni Spread Recap by Rating

	AAA	AA	A	BAA
03/01/12	84	92	154	341
04/01/12	67	77	147	335
05/01/12	80	89	154	339
06/01/12	101	121	211	376
07/01/12	89	104	179	371
08/01/12	76	94	164	366
09/01/12	80	94	158	352
10/01/12	85	96	165	355
11/01/12	80	95	155	328
12/01/12	90	95	160	330
01/01/13	75	85	150	300
02/01/13	69	79	130	280
03/01/13	77	79	136	281
CURRENT	78	86	142	295

Source: TM3, 03.29.2013



Biographies

Biographies

Senior Management

Todd Boehly

Managing Partner, President,
Guggenheim Partners, LLC

Mr. Boehly is President of Guggenheim Partners, LLC (“Guggenheim Partners”), a privately held, global financial services firm with more than \$170 billion¹ in assets under management. Mr. Boehly is the head of Guggenheim Investments, a diversified investment manager serving both institutional and individual clients. Mr. Boehly also serves as the Chairman of the Board for Security Benefit, an insurance company serving individual clients. Mr. Boehly is also a member of the Executive and Management Committees for Guggenheim Partners. Mr. Boehly joined Guggenheim in 2001 in order to build and manage the firm’s leveraged credit investing activities. He successfully grew assets under management from approximately \$3 billion when he joined to its current level of approximately \$36 billion. Mr. Boehly also spearheaded the firm’s entry into the middle market direct lending arena where Guggenheim originated more than \$6 billion of proprietary investment opportunities over the past 10 years. He also led the acquisition of three strategic businesses for the firm, Security Benefit, Rydex and Claymore. Prior to joining Guggenheim, Mr. Boehly was a vice president at Whitney & Co. where he worked in private equity as well as private mezzanine and leveraged credit investing. Mr. Boehly was responsible for developing the firm’s leveraged loan investing program and special situation portfolio. Mr. Boehly also co-founded Shelter Rock Capital Corporation, which was established by Whitney for its CDO restructuring and takeover activities. Prior to Whitney, Mr. Boehly worked in the Leveraged Finance Group at Credit Suisse First Boston. Mr. Boehly received his BBA from the College of William & Mary and spent a year abroad at the London School of Economics.

B. Scott MinerD

Managing Partner,
Chief Investment Officer

Mr. MinerD joined Guggenheim in 1998. In his role as Chief Investment Officer, Mr. MinerD guides the firm’s investment strategies and oversees client accounts across a broad range of fixed-income and equity securities. Previously Mr. MinerD was a Managing Director with Credit Suisse First Boston in charge of trading and risk management for the Fixed Income Credit Trading Group. In this position, he was responsible for the corporate bond, preferred stock, money markets, U.S. government agency and sovereign debt, derivatives securities, structured debt and interest rate swaps trading business units. Prior to that, Mr. MinerD was Morgan Stanley’s London based European Capital Markets Products Trading and Risk Manager responsible for Eurobonds, Euro-MTNs, domestic European Bonds, FRNs, derivative securities and money market products in 12 European currencies and Asian markets. Mr. MinerD has also held capital markets positions with Merrill Lynch and Continental Bank. Prior to that, he was a Certified Public Accountant and worked for the public accounting firm of Price Waterhouse. Mr. MinerD holds a B.S. degree in Economics from the Wharton School, University of Pennsylvania, Philadelphia, and has completed graduate work at the University of Chicago Graduate School of Business and the Wharton School, University of Pennsylvania. Mr. MinerD is currently working with the Organization for Economic Cooperation and Development (OECD) advising on research and analysis of private sector infrastructure investment. He is a regularly featured guest on FOX Business News, Bloomberg Television and CNBC sharing his insight on today’s financial climate.

¹ Figure is as of 12.31.2012 and includes consulting services for clients whose assets are valued at approximately \$37 billion.

Biographies

Senior Management

Anne B. Walsh, CFA

Senior Managing Director,
Assistant Chief Investment
Officer, Fixed Income

Ms. Walsh joined Guggenheim in 2007 and is head of the Portfolio Construction Group (“PCG”) where she oversees more than \$60 billion in fixed income investments including Agencies, Credit, Municipals, Residential Mortgage Backed Securities, Commercial Mortgage Backed Securities and Asset Backed Securities across several Guggenheim affiliates. The PCG is responsible for sector allocation, risk management and hedging strategies for client portfolios, and conveying Guggenheim’s macro-economic outlook to Portfolio Managers and fixed income Sector Specialists. Ms. Walsh specializes in liability driven portfolio management. With more than 28 years in the investment management industry, including roles as a money manager and as a selector of money managers, Ms. Walsh is well suited to understand the needs of institutional clients and how to address them. Prior to joining Guggenheim, Ms. Walsh served as Chief Investment Officer at Reinsurance Group of America, Incorporated, a recognized leader in the global life reinsurance industry. Prior to joining RGA in 2000, Ms. Walsh served as Vice President and Senior Investment Consultant for Zurich Scudder Investments. Earlier, she held roles at Lincoln Investment Management and American Bankers Insurance Group. Ms. Walsh received her BSBA and MBA from Auburn University and her J.D. from the University of Miami School of Law. She has earned the right to use the Chartered Financial Analyst® designation and is a member of the CFA Institute.

Biographies

Investment Professionals

Jeffrey S. Carefoot, CFA

Managing Director,
Portfolio Manager

Mr. Carefoot joined Guggenheim in 2007 as a manager and trader of investment grade corporate and preferred portfolios. He also assists in management and trading of municipal portfolios. Previously, Mr. Carefoot was responsible for portfolio management of more than \$12 billion of core and core plus strategies at Payden & Rygel Investment Counsel in Los Angeles. Prior to joining Payden & Rygel Investment Counsel, Mr. Carefoot held a position as a Principal, Global Fixed Income Specialist, at Global Fixed Income Partners in Newport Beach CA, and prior to that as a Principal – Senior Institutional Portfolio Manager at Wells Capital Management, Los Angeles, California. Mr. Carefoot has a B.S. from California Polytechnic University and an M.S. from Golden Gate University. He has earned the right to use the Chartered Financial Analyst® designation and is a member of the CFA Institute.

Allen Li, CFA

Director,
Portfolio Manager

Mr. Li joined Guggenheim in 2007 with a dual role in equities and investment grade corporate research. He began covering municipal bonds when Guggenheim built up sector exposure to take advantage of the auction-rate securities market dislocation in early 2008. He currently trades and researches both traditional exempts and the newer structures such as Build America Bonds and Qualified School Construction Bonds. Mr. Li received a B.A. in Economics from Cornell University. He has earned the right to use the Chartered Financial Analyst® designation and is a member of the CFA Institute.

Chetan K. Marfatia

Director

Mr. Marfatia joined Guggenheim in 2011 as a Director and oversees Military Housing, State Agency Municipal Housing, Affordable Housing and the Low-Income Housing Tax Credit sectors. Mr. Marfatia has over 25 years of experience in the taxable and tax-exempt affordable housing finance industry, and oversaw a total portfolio of approximately \$11 billion in the Military Housing, Affordable Housing and State Agency Housing sectors. He has a wealth of experience covering mortgage revenue bonds, whole loan pools, Federal agency mortgage-backed securities, privatized student housing bonds for colleges and universities, FHA-insured, Section 8-subsidized multi-family housing bonds and affordable housing bonds. Prior to joining Guggenheim, he was the founder of Fixed Income Investors Credit Services, Inc., an independent credit structuring and advisory company, offering comprehensive analysis and insight into the U.S. Government's privatization sector. Before Fixed Income Investors Credit Services, Mr. Marfatia was a Managing Director and Head of the Housing Finance Group at Ambac Assurance Corp., responsible for credit and underwriting analysis, transaction origination and all marketing within the above noted sectors. Prior to joining Ambac, he was Vice President and investment banker in the Municipal Bond Department at Lehman Brothers. Previously, he was an Analyst in the Public Finance Division at Donaldson, Lufkin & Jenrette, and also spent four years at MBIA from 1988 to 1992. Mr. Marfatia holds a B.A. in Economics and History from the State University of New York at Stony Brook.

Biographies

Investment Professionals

Patrick Lee Mitchell

Senior Managing Director,
Senior Advisor to the Chief
Investment Officer

Mr. Mitchell joined Guggenheim in 2009 as Managing Director and portfolio manager having more than 37 years of experience in portfolio management, commercial banking, research and investments. He serves as a member of the Portfolio Construction Group. Previously, Mr. Mitchell was a Managing Director at Maple Stone Capital Management and Metropolitan West Financial. During the 1990s, Mr. Mitchell managed portfolios for the California State Teachers' Retirement System (the last four years as the Chief Investment Officer), the nation's second-largest pension fund. Previous to that, Mr. Mitchell held various positions at three major west coast financial institutions including commercial lending, branch manager, Comptroller, Treasurer and Asset/Liability Manager, managing fixed income portfolios. Currently, Mr. Mitchell is the Investment Committee Chairman for the University of Idaho's Foundation and is a Fellow on the Milken Institute's Emerging Domestic Markets and Financial Innovations Group. He received a B.S. in Business from the University of Idaho and an MBA from Idaho State University.

Chris Randall

Vice President,
Trader

Mr. Randall joined Guggenheim in January 2012 as a Fixed Income Municipal Bond Trader. He covers both the taxable and tax-exempt municipal markets. Previously, Mr. Randall was a money market trader at Capital Research and Management Company, where he traded for both institutional and retail municipal funds. Mr. Randall received a B.A. in Mathematics and Economics from UC San Diego.

David Stone

Credit Analyst

Mr. Stone joined Guggenheim in 2012 with a focus on municipal credit research. He previously held a dual role as a Risk and Business Analyst at The Hanover Insurance Group, a property and casualty firm based outside of Boston, MA after which he worked as a programmer. He currently provides credit analysis for both traditional tax exempt bonds in addition to newer structures. Mr. Stone earned a B.A. in Pure and Applied Mathematics at Boston University.

Biographies

Business Development & Client Relations

Mark Radville

Managing Director.
Client Relationship Manager

Mr. Radville is responsible for institutional new business development through investment consultants, corporate plans, endowments, foundations, family offices and public funds for Guggenheim Investments. He joined the firm in 2007 from Financial Management Advisors (FMA), where he was Managing Director of Sales and Marketing. Prior to joining FMA, he was Director of Marketing for Merrill Lynch Investment Managers, Director of Consultant Relations for Conseco Capital Management, a Consultant for Bear Stearns & Co., Inc. and an Investment Analyst for SEI Capital Resources. Mr. Radville received his B.S. degree in Business Finance from Loyola University of Chicago in 1989. He holds FINRA Series 7 and 66 licenses.



Disclosures and Legal Notice

Disclosures and Legal Notice

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In an effort to simplify the corporate structure, Guggenheim Investment Management, LLC ("GIM") consolidated with its SEC registered investment adviser affiliate Guggenheim Partners Asset Management, LLC ("GPAM"). The legal entity consolidation and name change was completed on June 30, 2012. The new firm name is Guggenheim Partners Investment Management ("GPIM").

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Results are shown gross of advisory fees, and assume reinvestment of dividends and income and capital gains, and are net of transaction costs. Advisory fees are deducted quarterly. Client's returns may be reduced by the advisory fees and other expenses that a client may incur in the management of its account. The effect of advisory fees upon performance is illustrated by the following example: A 3% annual fee deducted quarterly (.75%) from an account with a ten year annualized growth rate of 14% will produce a net result of 10.8%. Actual performance will vary from this example. Actual fees may vary depending upon, among other things, the applicable fee schedule and portfolio size. Fees are described in Part 2 of GPIM's Form ADV.

Past performance of indices of asset classes does not represent actual returns or volatility of actual accounts or investment managers, and should not be viewed as indicative of future results. The benchmarks used are for purposes of comparison and should not be understood to mean that there will necessarily be a correlation between the portrayed returns herein and these benchmarks.

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Index and Other Definitions:

Indices are unmanaged. The figures for the index reflect the reinvestment of dividends but do not reflect the deduction of fees or expenses which would reduce returns. Investors cannot invest directly in the indices.

The Wells Fargo Build America Bond Index is a market capitalization weighted and rule-based index that provides diversified exposure in the market. The index is priced daily and is available on Bloomberg Professional Service® by typing BABS Index.

The Barclays Build America Bond Index consists of all direct pay Build America Bonds that satisfy the rules of the Barclays Capital Taxable Municipal Index.

The Barclays Municipal Long Bond Index (22+) component of the Barclays Capital Municipal Bond Index - a rules-based, market-value-weighted Index engineered for the long-term tax-exempt bond market.

The Barclays Capital Taxable Municipal Bond Index (Inception of Jan 2006) is a rules-based, market-value-weighted Index engineered for the long-term taxable bond market. To be included in the Index, bonds must be rated investment-grade (Baa3/BBB- or higher) by at least two of the following ratings agencies if all three rate the bond: Moody's, S&P, Fitch. BABs are taxable fixed rate obligations established and authorized by the American Recovery and Reinvestment Act of 2009 for which the U.S. Treasury provides a direct subsidy payment to the issuer of 35% of the annual interest expense. QSCB are taxable municipal obligations established and authorized by the American Recovery and Reinvestment Act of 2009 for which a tax credit is received by the investor in lieu of a cash interest payment.

The BofA Merrill Lynch BAB Index is designed to track the performance of U.S. dollar-denominated investment grade taxable municipal debt publicly issued under the BAB program.

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Alaska Retirement Management Board

April 19, 2013

Robert E. Amodeo, CFA Joseph C. Carieri



Table of Contents

- I. Organizational Update
- II. People, Philosophy, and Process
- III. Appendix

Organizational Update

Western Asset Management

*Western Asset is a global investment management firm committed to
understanding the needs of each client,
identifying investment solutions and
delivering superior long-term investment results*

We Believe in Value

Investment Philosophy

Long-term, fundamental value discipline

- Bottom-up
- Top-down

Diversified strategies

- Depth of resources
- Global

Integrated analytics and risk management

- Relative value analysis
- Transparency and communication

Global Breadth and Local Depth

December 31, 2012

Total AUM: \$461.9 billion

8 Countries

Total Staff: 865



Assets under management in USD (billions)

Investment Solutions

Diversified Fixed-Income

Cash Management

Money Market Funds
Managed Cash
Enhanced Cash
Enhanced Liquidity

Region/Country Specific

Asia
Australia
Brazil
Canada
Europe
Japan
Singapore
United Kingdom

Short Duration

Limited Duration
Limited Duration Constrained
Index Plus

Alternatives

Tail Risk Protection
Global Credit Absolute Return
Macro Opportunities

Intermediate Duration

Government
Intermediate
Core
Core Full

Long Duration

Long Duration
Liability Driven

Total Return

Global Multi-Sector
Total Return Unconstrained
Dynamic Fixed-Income

Sector Strategies

Inflation-Linked

US TIPS
US TIPS Plus
Commodities Plus

Credit

Corporate
Long Credit
High Yield
Short-Dated High-Yield
Bank Loan

Emerging Markets Debt

EMD Diversified
EMD Local Currency Sovereign
EMD USD Corporate Credit
EMD Sovereign
EMD USD High-Yield
EMD Total Return Unconstrained
EMD Short Duration Local Currency

Structured Product

Agency MBS
Non-Agency MBS
CMBS
ABS

Municipal

National
State Specific
High-Yield Municipal
Tax Efficient

Global Solutions

Government

Sovereign
Sovereign Limited Duration
Global Sovereign Total Return
Sovereign Q

Inflation-Linked

Global Inflation-Linked
Global Inflation-Linked Plus

Diversified

Global Core
Global Core Full

Credit

Global Corporate
Global High-Yield
Diversified High Income Bond Strategy

Currency

Currency Alpha
Strategic Currency

Municipal Expertise

Experience

- \$28.0 billion Municipal assets under management¹
- Seven-person portfolio management team averaging more than 24 years of experience
- Team supported by both credit and quantitative research analysts

Product Array

- Institutional
- Mutual Funds
- Retail Separately Managed Accounts

Long Term Track Records

- Began managing Municipal portfolios in 1981
- Most strategies have performance track records greater than 10 years

Reporting

- Western Asset Management makes every effort to customize reporting solutions to meet specific client needs

¹As of 31 Mar 13. Includes municipal money market assets under management. Assets under management by Western Asset and its supervised affiliates.

People, Philosophy, and Process

Municipal Sector Team

S. Kenneth Leech (36 yrs)
Co-Chief Investment Officer

Stephen A. Walsh (32 yrs)
Co-Chief Investment Officer

Robert Amodeo, CFA (26 yrs)
Head of Municipals

Portfolio Managers

Robert Amodeo, CFA (26 yrs)
Charles Bardes (28 yrs)
David T. Fare, CFA (26 yrs)
Barbara Ferguson (28 yrs)

Barry HoAire (12 yrs)
John C. Mooney, CFA (26 yrs)
Edward J. Paulinski (11 yrs)

Research

Judy Ewald (30 yrs)
Health Care
Higher Education
Housing
Pre-Refunded
Tax Exempt
Structured

Bud Littman (20 yrs)
Misc High Yield
Public Facilities
Power
Special Assessment
Districts

Kathryn Montgomery (4 yrs)
Financial Institutions

Thea Okin (31 yrs)
Assisted Living
Charter Schools
Nursing Homes
Power
Water and Sewer

Paul Olsen (30 yrs)
Financial Institutions

Frederick Poon (13 yrs)
Health Care
Industrial Revenue
Bonds
Solid Waste
Tobacco

Reese K. Trucks (27 yrs)
Transportation:
Airlines
Airport Revenue
Bridges & Tunnels
Mass Transit
Ports
Toll Roads

Trading/ Portfolio Analysts

Joseph Genco (20 yrs)
Mindy Joe, CFA (11 yrs)
David Huynh (8 yrs)

Quantitative Analysts

Vidhu Aggarwal, CFA (10 yrs)
Rolf Lundelius, CFA (19 yrs)

As of 01 Apr 13

Western Asset experience reflects current position title and hire date.

Municipal Analyst Coverage

Credit						
Judy Ewald	Bud Littman	Thea Okin	Frederick Poon	Reese Trucks	Paul Olsen	Kathryn Montgomery
Research Analyst	Research Analyst	Research Analyst	Research Analyst	Research Analyst	Research Analyst	Research Analyst
30 years experience	20 years experience	31 years experience	13 years experience	27 years experience	30 years experience	4 years experience
Sector Coverage	Sector Coverage	Sector Coverage	Sector Coverage	Sector Coverage	Sector Coverage	Sector Coverage
Health Care	Misc High Yield	Assisted Living	Health Care	Transportation:	Financial Institutions	Financial Institutions
Higher Education	Public Facilities	Charter Schools	Industrial Revenue Bonds	Airlines		
Housing	Power	Nursing Homes	Solid Waste	Airport Revenue		
Pre-Refunded	Special Assessment Districts	Power	Tobacco	Bridges & Tunnels		
Tax Exempt Structured		Water and Sewer		Mass Transit		
				Ports		
				Toll Roads		
State Coverage	State Coverage	State Coverage	State Coverage	State Coverage	State Coverage	State Coverage
California	Alabama	Illinois	South Dakota	Alaska	Arizona	
Delaware	Arkansas	Indiana	Wisconsin	Connecticut	Colorado	
Georgia	Hawaii	Iowa		Maine	Florida	
Maryland	Kentucky	Kansas		Massachusetts	Idaho	
North Carolina	Louisiana	Michigan		New Hampshire	Montana	
Pennsylvania	Mississippi	Minnesota		Oregon	Nevada	
South Carolina	Missouri	Nebraska		Rhode Island	New Mexico	
Virginia	Oklahoma	New Jersey		Vermont	Utah	
West Virginia	Puerto Rico	New York		Washington		
	Tennessee	North Dakota		Wyoming		
	Texas	Ohio				

Quantitative	
Vidhu Aggarwal	Rolf Lundelius
Quantitative Analyst	Quantitative Analyst
10 years experience	19 years experience

As of 01 Apr 13

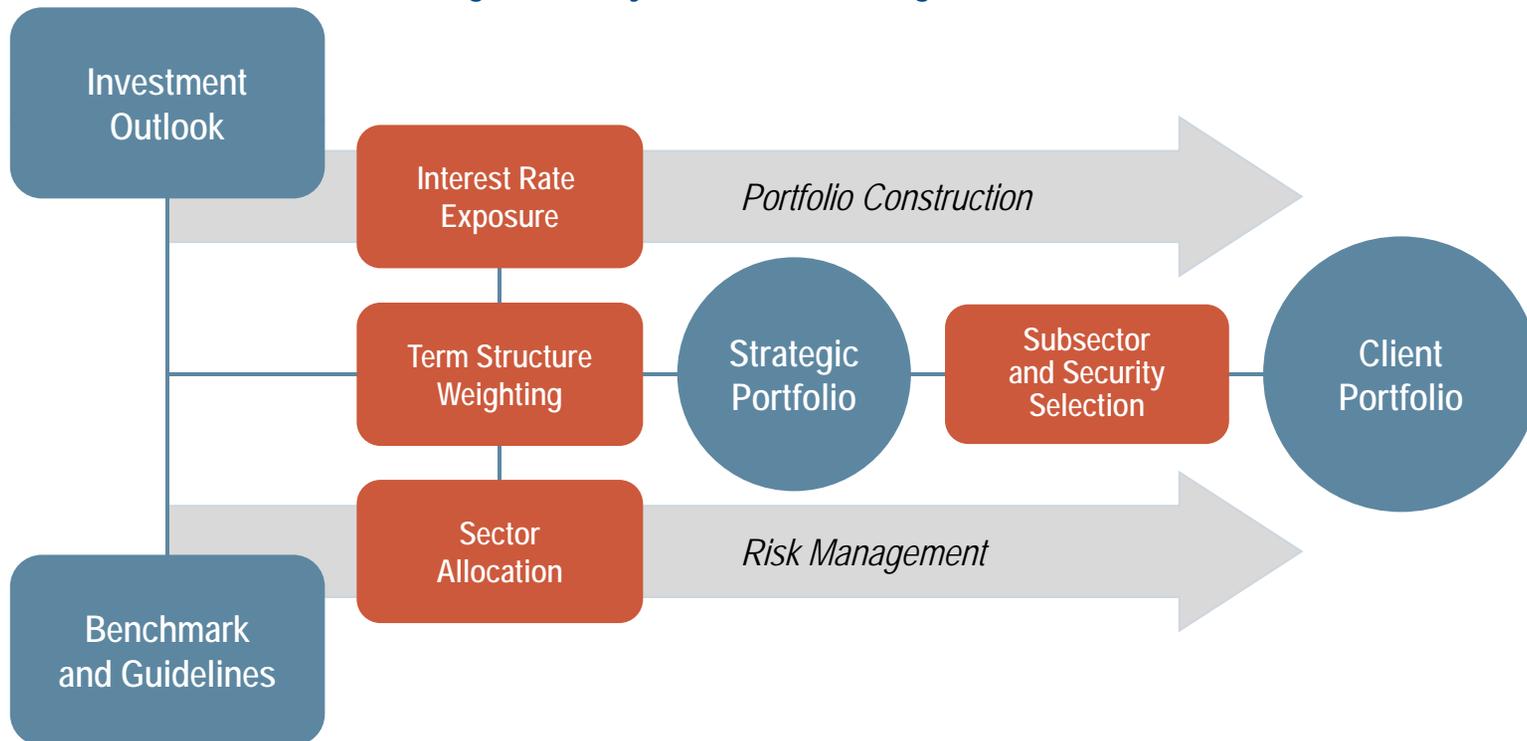
Western Asset experience reflects current position title and hire date.

Investment Philosophy and Process

Long-term, fundamental value orientation

Diversified strategies

Integrated analytics and risk management

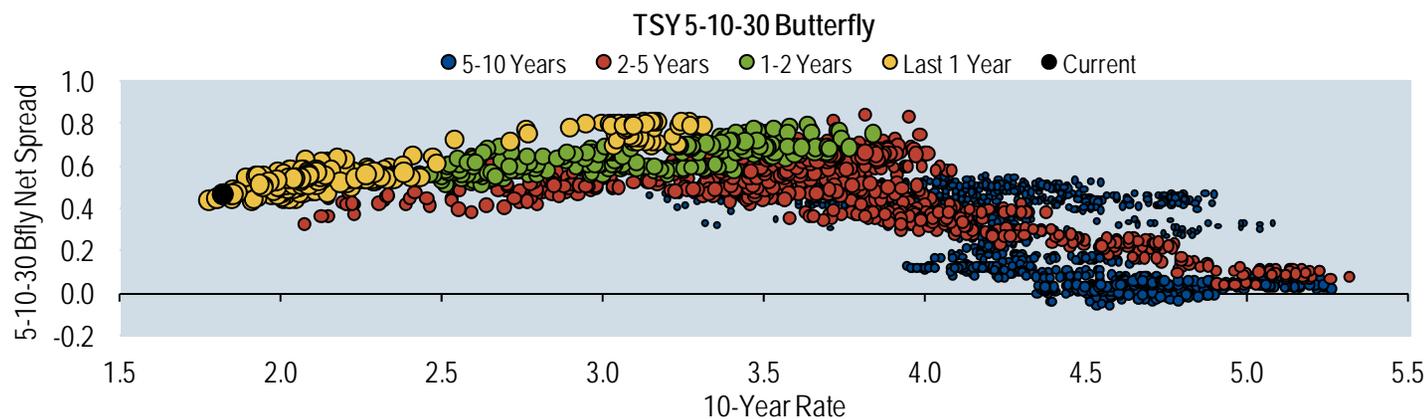


Yield Curve: Strategic Decision

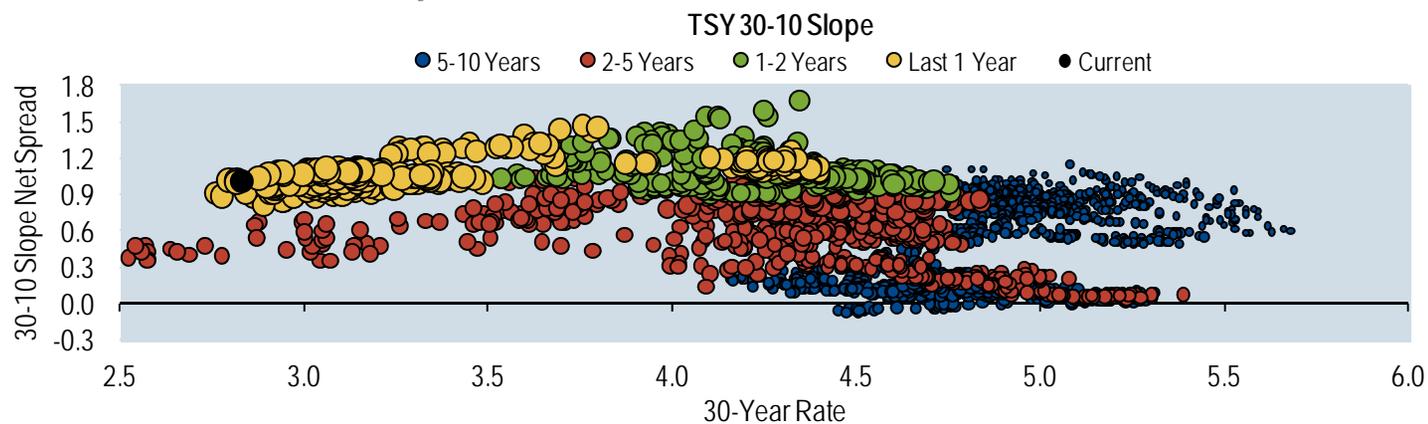
Meaningful Value May Be Added by Exploiting Opportunities in the Interest Rate Term Structure

The Broad Market Committee (BMC) determines the macro term structure view based on shape/slope of yield curve, along with central bank policy and market expectations

Ongoing monitoring of portfolio term structure vs. benchmark/guidelines



Source: Western Asset and Bloomberg as of 29 Mar 13



Source: Western Asset and Bloomberg as of 29 Mar 13

Sector: Regional Data Analysis

March 2013

Legend: (C) – County (S) – State (CT) – City/Town (SD) – School District

Budget/Financials

Budget Deficit (%) (S)
Budget Deficit (S)
CAFRs Filing Index (S,CT)
Debt Outstand./Pers. Inc. (S)
Debt Outstanding (S)
Debt Outstanding per Capita (S)
Defense Expenditures as % of GDP (S)
Deficit Per Capita (S)
Fed. Funds Received as % of Revenue (S)
Fed. Funds Received Per Capita (S,C)
Federal Funds Change (3 year) (C)
Federal Funds Received - Total (S,C)
General Fund Balance (S)
Gen. Fund Expenditure Change (S)
General Fund Expenditures (S)
General Fund Expenditures (Estimated) (S)
General Fund Revenues (S)
General Fund Revenue (Estimated) (S)
Pub Debt for Priv. S&L % of Total (S)
Recovery Act Contracts (S)
Recovery Act Funds (S)
Recovery Act Grants (S)
Recovery Act Loans (S)
Stabilization Fund (S)
Stabilization Funds as % of Expenditures (S)
Tot. Debt Out. S&L Per Capita (S)
Total Debt Outst. S&L (S)

Commerce

Business Vacancy Rate (C)
Business Vacancy Rate Change (C)
Exports as % of GDP (S)

Commerce (continued)

Exports % Change (S)
Export Partners (S)
Exports Value (S)
GDP as % of US GDP (S)
GDP Growth & Breakdown (S)
GDP Per Capita (S)

Crime

Crime Risk (S,C,CT)
Violent Crime (S)
Violent Crime Change (1 Year) (S)

Disasters

Drought Intensity (C)
Earthquake Risk (C)
Earthquakes, FEMA Disasters (C)
FEMA Disasters (C)
Fires, FEMA Disasters (C)
Floods, FEMA Disasters (C)
Hurricanes, FEMA Disasters (C)
SPECIAL EVENT: Hurricane Sandy (C)
Tornadoes, FEMA Disasters (C)

Distress

Coincident Index Change (1 month) (S)
Food Stamp Part. Change (Households) (S,C,CT,SD)
Food Stamp Part. Change (S)
Food Stamp Rank (Households) (S,C,CT,SD)
Food Stamp Rank (S)
Muni Index-Point in Time (S,C)
Muni Index-Pt. in Time/Trend (C)
Muni Index-Trend (S)
Philly Fed Leading Index (S)
Poverty (#) (S,C,CT,SD)

Distress (continued)

Poverty (%) (S,C,CT,SD)
Poverty Change (S,C,SD)
Public Assistance Receipts (S,C,CT,SD)

Education

4th Grade Math (Overall Rank) (S)
4th Grade Math (S)
4th Grade Reading (Overall Rank) (S)
4th Grade Reading (S)
8th Grade Math (Overall Rank) (S)
8th Grade Math (S)
8th Grade Reading (Overall Rank) (S)
8th Grade Reading (S)
Debt Outstanding at Year End (PSED) (S,C,SD)
District Revenue - Federal Sources (S,C,SD)
District Revenue - Local Sources (S,C,SD)
District Revenue - State Sources (S,C,SD)
E&S Budget as % of State (S)
Educational Climate Index (C,CT)
Elementary & Secondary Budget (S)
Higher Ed. Budget as % of State (S)
Higher Education Budget (S)
Instruction Expend. Per Pupil (S,C,SD)
Instruction Expenditures (S,C,SD)
Overall Rank (S)
Public Elementary & Secondary School Enrollment (S,C,SD)
Public School Expend. Per Pupil (S,C,SD)
Public School Expenditures (S,C,SD)
Public School Revenue Total (S,C,SD)
Support Services Expend. Per Pupil (S,C)
Support Services Expenditures (S,C,SD)
Total State Budget (S)

Education (continued)

Total Teachers (S,SD)

Healthcare

Federal Hospitals (S,C)
Federal Spending (S)
Health Coverage - Uninsured (#) (S,C,CT,SD)
Health Coverage - Uninsured (S,C)
Health Coverage (S,C,CT,SD)
Local Gov't/Authority Hosp. (S,C)
Medicaid Enrollment Change (S,C,CT,SD)
Medicaid Spending Growth Rate (S)
Medicare (S,C,CT,SD)
Medicare Hospitals (S,C)
Non-Profit Hospitals (S,C)
Proprietary Hospitals (S,C)
State Gen. Fund Spending (S)
State Hospitals (S,C)

Housing

Annual Foreclosure (S,C)
Delinquency Rate (Res Mortgage) (S)
Foreclosure Rank (S,C)
Foreclosures (#) (S,C)
Foreclosures (S,C)
Homeowner Vacancy Rate (S)
Homeownership Rate (S)
House Price Change (S)
House Price Change Rank (S)
Households (S,C,CT,SD)
Housing Price Index (S,C)
Median Gross Rent (S,C,CT,SD)
Median Home Sale Price (S,C,CT,SD)
Median Home Value (1 Year) (S,C,CT,SD)

Source: Lumesis, March 2013

Sector: Regional Data Analysis (Continued)

March 31, 2013

Legend: (C) – County (S) – State (CT) – City/Town (SD) – School District

Housing (continued)

Median Home Value (3 Year) (C)
 Median Home Value (5 Year) (C)
 Median Value of Home Equity (S,C,CT,SD)
 Res. Vacancy Rate (S,C,CT,SD)
 Res. Vacancy Rate Change (S,C,CT,SD)

Income

Aggregate Wage or Salary Income (S,C,CT,SD)
 Avg. Weekly Wages (S,C)
 Income Per Capita (S,C,CT,SD)
 Median Household Income (S,C,CT,SD)
 Median Household Income Change (S,C,CT,SD)
 Personal Income (S,C)
 Personal Income Change (S,C)
 Personal Income Per Capita (S,C)
 Personal Income Per Capita Change (C)
 Personal Income Per Capita as % US (C)

Other

Nuclear Plants - Oper. & Decommissioning (S,C)
 Nuclear Plants - Operational (S,C)

Pension & OPEB

ARC as percent of GF Expenses (S,CT)
 ARC as percent of GF Revenue (S,CT)
 ARC Paid (S,CT)
 Benefits (S)
 Cash, Short-term Investments (S)
 Corporate Bonds (S)
 Corporate Equity (S)
 Employee Contributions (S)
 Fed. Gov't Investments (S)
 Foreign & Int'l Securities (S)
 Funded Ratio, Pension Plan (S,CT)

Pension & OPEB (continued)

Government Contributions (S)
 Investment Earnings (S)
 Other Payments (S)
 Other Securities & Investments (S)
 Total Revenues (S)
 Withdrawals (S)

Politics & Government

Political Tendency Score (S)

Population

Population (S,C,CT,SD)
 Population <18 Change (C)
 Population <18 Yr (S,C,CT,SD)
 Population >64 Change (C)
 Population >64 Yr (S,C,CT,SD)
 Population 18-64 Change (C)
 Population 18-64 Yr (S,C,CT,SD)
 Population Change (S,C,CT,SD)

Taxes

Assessed Value-Pers Prop. Change (C)
 Assessed Value-Real Prop. Change (C)
 Assessed Values - Personal Property (C)
 Assessed Values - Real & Personal (C)
 Assessed Values - Real Property (C)
 Corporate Tax Index Rank (S)
 Income Taxes (S)
 Individual Income Tax Index Rank (S)
 License Tax Collections (S)
 Other Tax Collections (S)
 Prop. Tax Paid as % of Home Value (1 Year) (C)
 Prop. Tax Paid as % of Home Value (3 Year) (C)
 Prop. Tax Paid as % of Home Value (5 Year) (C)

Taxes (continued)

Prop. Tax Paid as % of Income (C)
 Property Tax Index Rank (S)
 Property Tax Paid, Median (1 Year) (C)
 Property Tax Paid, Median (3 Year) (C)
 Property Tax Paid, Median (5 Year) (C)
 Property Taxes (S)
 Property Taxes Paid, Rank (C)
 Sales & Gross Tax Receipts (S)
 Sales Tax Index Rank (S)
 State Business Tax Index Rank (S)
 Tax Collections Per Capita (S)
 Taxes Collected (S)
 Unemployment Insurance Tax Rank (S)

Unemployment/Employment

Construction Employment (S,C)
 Cont. Jobless Claims (S)
 Education & Health Services Employment (S,C)
 Employed (S,C,CT,SD)
 Federal Government Employment (S,C)
 Financial Activities Employment (S,C)
 Information Employment (S,C)
 Job Growth (1 Year) (S,C,CT,SD)
 Job Growth (10 Year) (S)
 Job Growth (5 Year) (S)
 Labor Force (S,C,CT,SD)
 Labor Underutilization (S)
 Leisure & Hospitality Employment (S,C)
 Manufacturing Employment (S,C)
 Natural Resources & Mining Employment (S,C)
 Other Services Employment (S,C)
 Professional & Business Services Empl. (S,C)

Unemployment/Employment (continued)

State & Local Gov't Employment (S,C)
 Trade, Transportation, & Utilities Empl. (S,C)
 Unclassified Employment (S,C)
 Unempl. Rank Change (S,C,CT,SD)
 Unemployed (S,C,CT,SD)
 Unemployment (S,C,CT,SD)
 Union Membership (S)
 Union Membership Rank (S)
 Weekly Initial Jobless Claims (S)

Airport Obligor

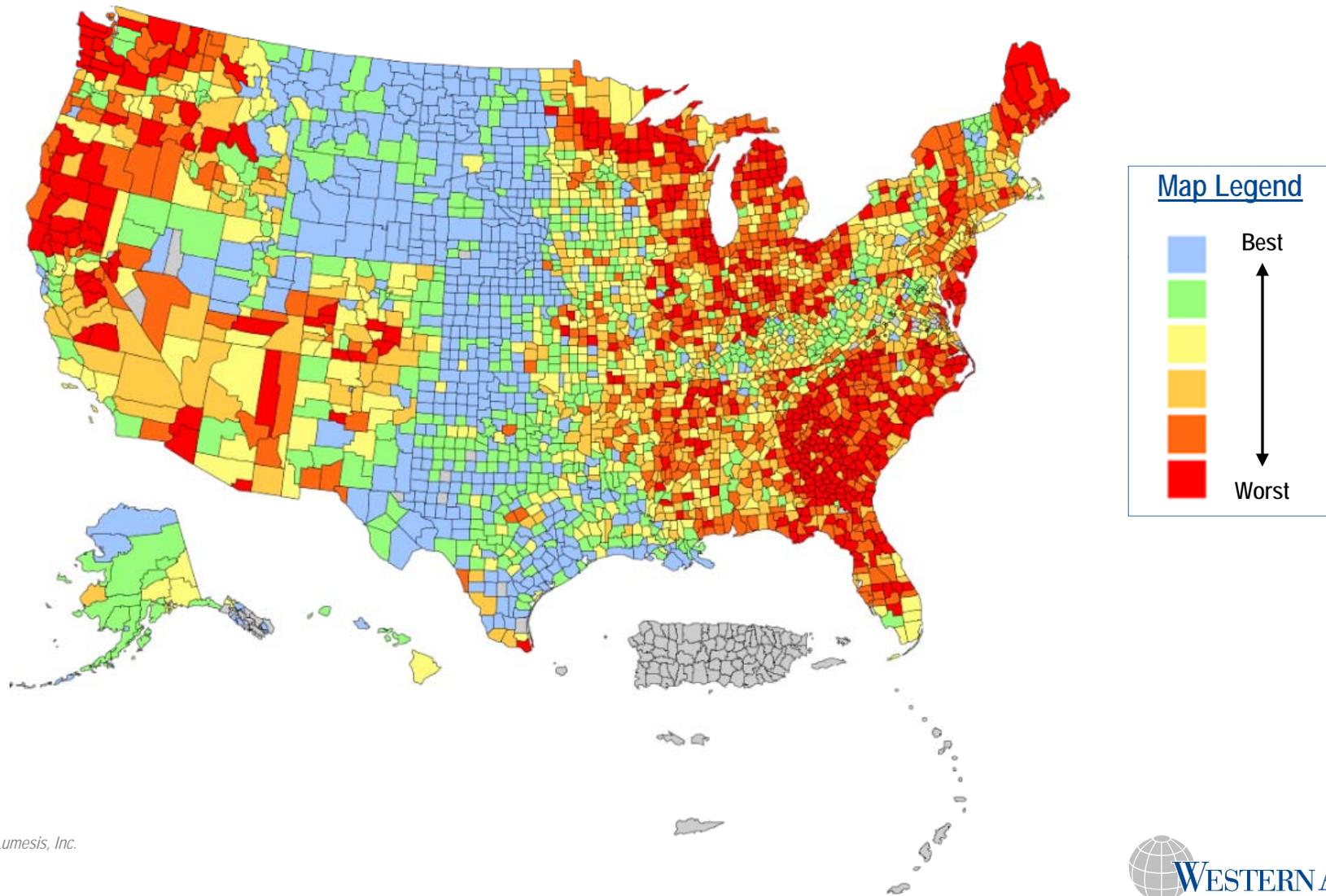
Airline Cost per Enplaned Passenger (O)
 Debt per Enplaned Passenger (O)
 Freight (tons) (O)
 Net Operating Income (O)
 Number of Departures (O)
 Operating Expenses (O)
 Operating Ratio (O)
 Passenger Enplanements (O)
 Total Operating Revenue (O)
 YOY % Change Passenger Enplanements (O)

Source: Lumesis, March 2013

Sector: County Economic Climate – Point in time

March 2013

Relative ranking of current county level economic climate at a point-in-time calculated by using 4 economic indicators – Unemployment Rate, Average Weekly Wages, Foreclosure Rate and FHFA Housing Price Index.



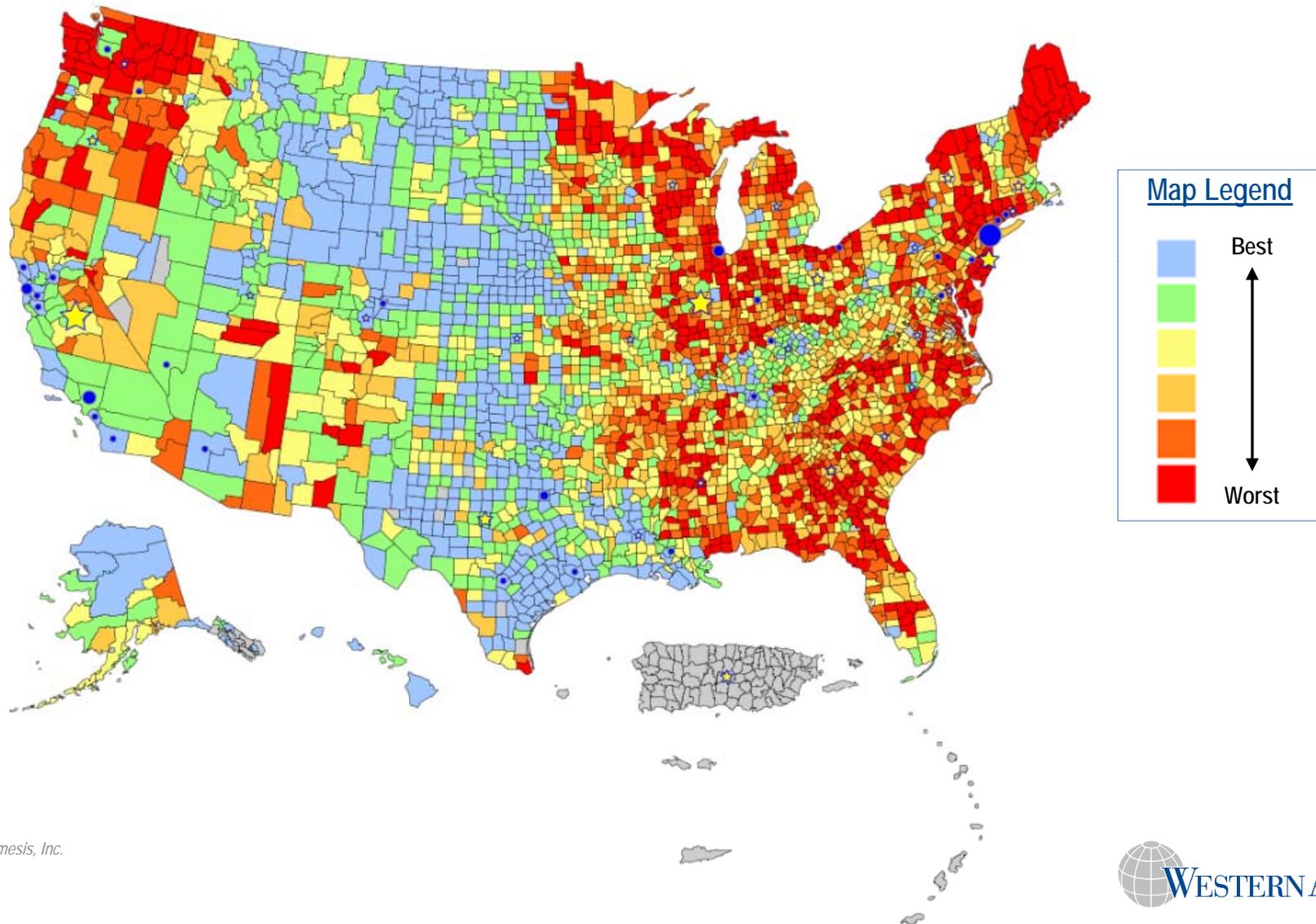
Source: Lumesis, Inc.

Sector: County Economic Climate – Point in Time and Annual Trend

March 2013

Relative ranking of current county level economic climate at a point-in-time coupled with the change in key indicators over a one year period. It is calculated by using 5 economic indicators – Unemployment, Average Weekly Wages, Foreclosures, FHFA Housing Price Index and Labor Force.

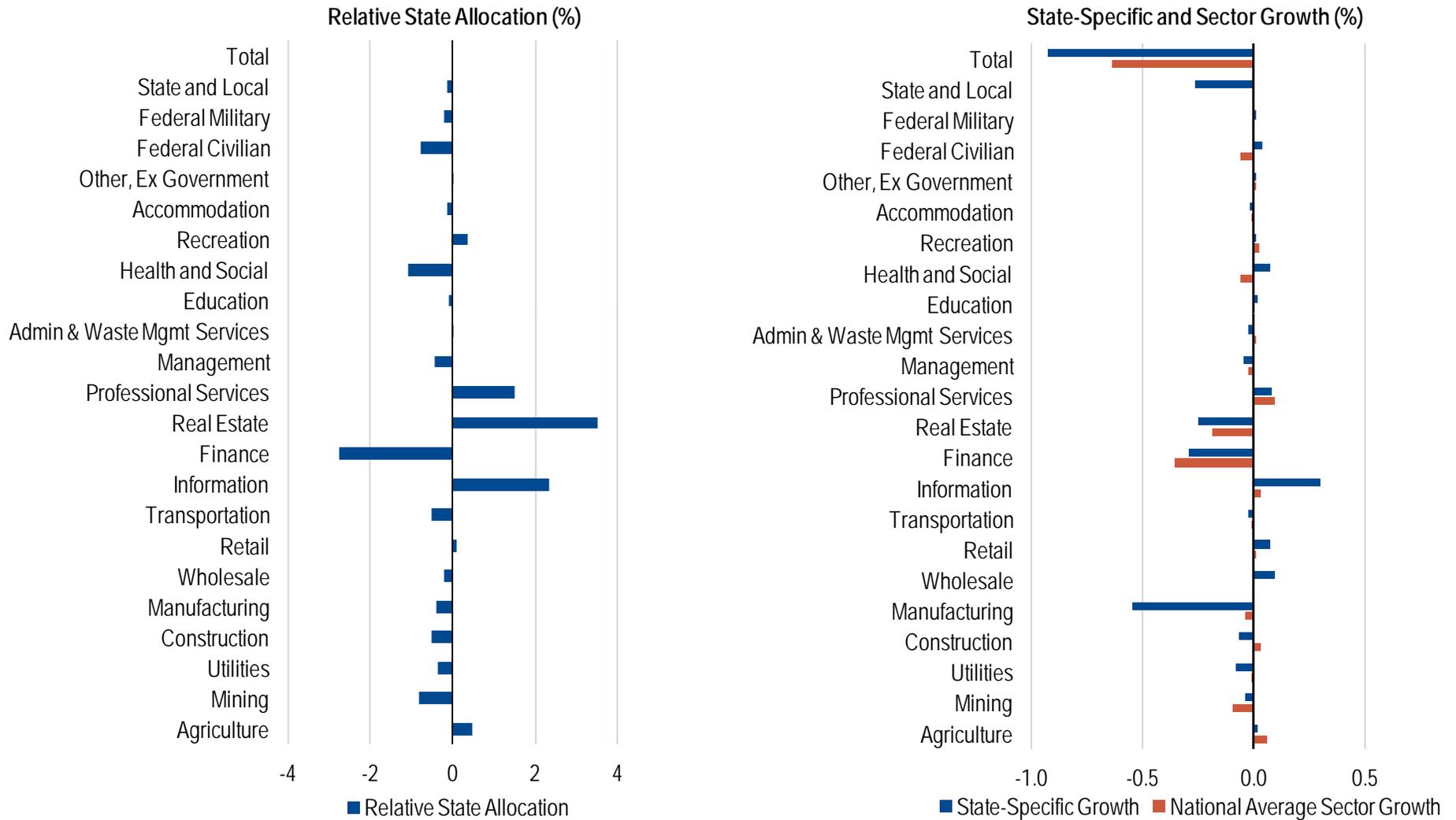
Dots represent Barclays US Muni Taxable Index



Source: Lumesis, Inc.

Sector: California Economy 2010

State Economic Trends Disentangled from National Trends



Source: Bureau of Economic Analysis and Western Asset

Issue Selection: Fundamental Analysis

Fundamental Analysis Drives Issue Selection

Sector information

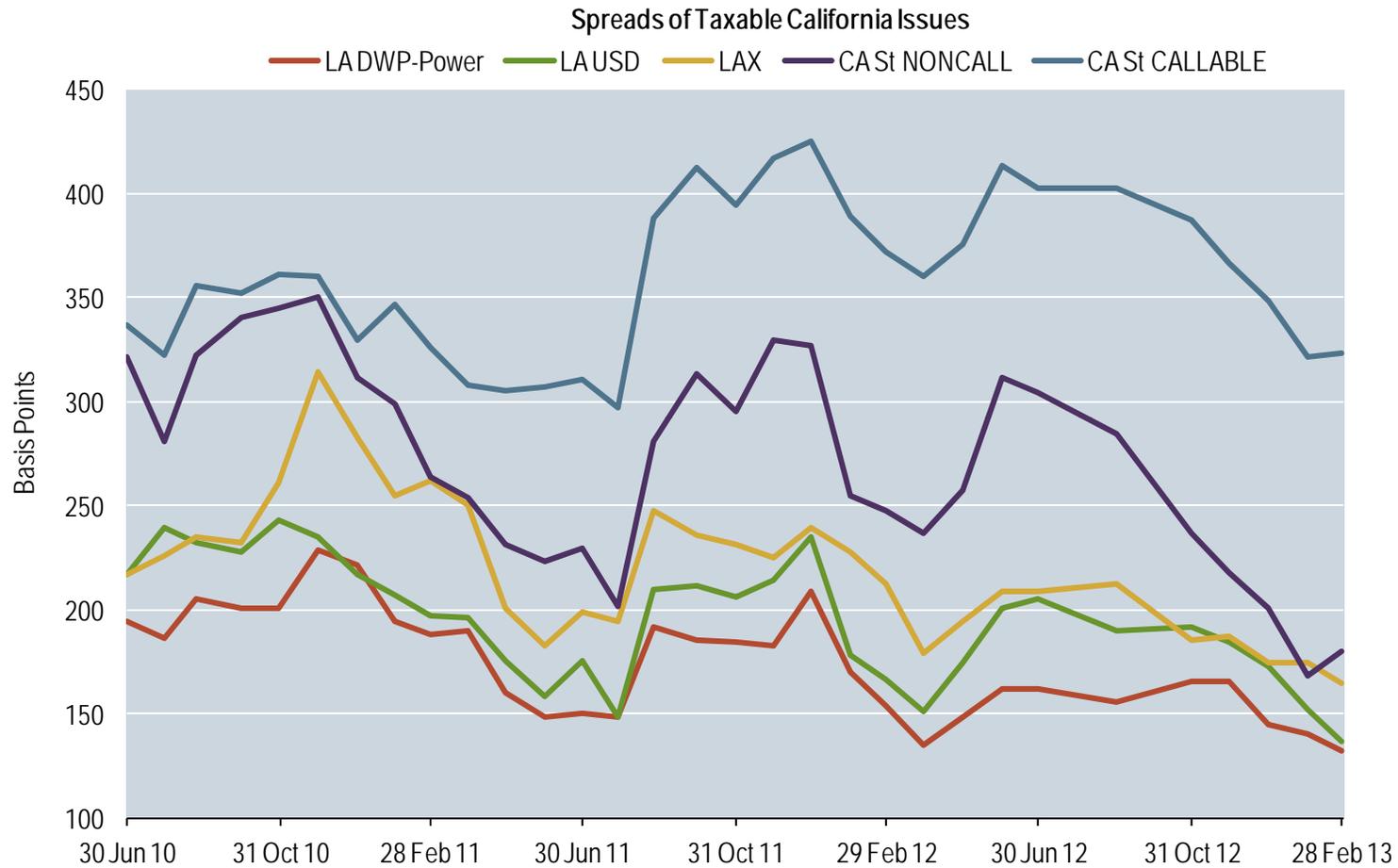
- Economic / market outlook
- Industry outlook
- Relative valuation

Issue Analysis

- Financial statement analysis
- Covenant analysis
- Management strength
- Competitive position
- Demographic trends
- Consultation with issuers
- Supply
- Liquidity

Issue Selection: Credit, Structure, Liquidity and Market Risk

Power, Schools and Airports



Source: Barclays. As of 28 Feb 13

Issue Selection: Disaggregation of Market Spreads

Relative Value Analysis

Sector	Market Value (USD in thousands)	Market Value (%)	Number of Bonds	Attribution to Spread
State.ARIZONA	868,604	0.5	2	-21.4
State.CALIFORNIA	45,863,591	29.0	60	-6.9
State.COLORADO	1,757,401	1.1	5	-24.4
State.CONNNECTICUT	3,165,137	2.0	6	27.3
State.DIST_OF_COLUMBIA	1,511,153	1.0	4	-25.3
State.GEORGIA	3,477,406	2.2	4	60.7
State.ILLINOIS	22,741,659	14.4	26	51.3
State.INDIANA	327,778	0.2	1	-13.7
State.KANSAS	362,792	0.2	1	-17.5
State.KENTUCKY	786,621	0.5	2	-49.5
State.LOUISIANA	635,341	0.4	2	-78.1
State.MARYLAND	454,679	0.3	1	-31.4
State.MASSACHUSETTS	3,749,606	2.4	8	-3.7
State.MICHIGAN	371,069	0.2	1	-88.6
State.MISSISSIPPI	360,430	0.2	1	10.7
State.MISSOURI	1,001,154	0.6	3	5.6
State.NEVADA	1,308,812	0.8	3	41.2
State.NEW_JERSEY	12,071,713	7.6	19	-25.5
State.NEW_YORK	21,167,778	13.4	42	-5.1
State.NORTH_CAROLINA	309,509	0.2	1	88.4
State.OHIO	6,157,055	3.9	13	4.4
State.OREGON	4,303,440	2.7	7	-12.4
State.PENNSYLVANIA	2,911,238	1.8	9	-17.4
State.PUERTO_RICO	3,641,844	2.3	10	-52.1
State.SOUTH_CAROLINA	476,560	0.3	1	-33.6
State.TENNESSEE	718,833	0.5	2	-2.2
State.TEXAS	12,568,513	8.0	23	-14.8
State.UTAH	1,246,010	0.8	3	-26.2
State.VIRGINIA	664,911	0.4	2	7.4
State.WASHINGTON	2,390,833	1.5	7	-12.7
State.WISCONSIN	625,095	0.4	1	-55.2
Market	157,996,565	100.0	270	164.8

Sector	Market Value (USD in thousands)	Market Value (%)	Number of Bonds	Attribution to Spread
Call_Type.CALL_RF	11,770,258	7.4	29	57.4
Call_Type.NONCALL	146,226,307	92.6	241	-4.6
Index_Rating.A1	16,742,672	10.6	33	18.3
Index_Rating.A2	50,157,366	31.7	50	32.9
Index_Rating.A3	3,613,057	2.3	8	28.9
Index_Rating.AA1	18,291,506	11.6	38	-44.0
Index_Rating.AA2	25,339,018	16.0	59	-45.6
Index_Rating.AA3	27,389,717	17.3	47	-13.8
Index_Rating.AAA	12,404,232	7.9	24	-51.2
Index_Rating.BAA1	828,778	0.5	2	151.0
Index_Rating.BAA3	3,230,219	2.0	9	243.0
Purpose_Class.Muni_Education	7,265,511	4.6	16	-3.9
Purpose_Class.Muni_Health_Care	1,181,490	0.7	2	23.0
Purpose_Class.Muni_Industrial_Revenue	6,873,234	4.4	15	41.2
Purpose_Class.Muni_Leasing	4,996,342	3.2	11	12.5
Purpose_Class.Muni_Local	15,376,360	9.7	32	15.0
Purpose_Class.Muni_Power	11,981,195	7.6	23	6.2
Purpose_Class.Muni_Special_Tax	19,835,563	12.6	45	12.6
Purpose_Class.Muni_State	50,458,964	31.9	53	-11.0
Purpose_Class.Muni_Transportation	29,610,368	18.7	48	-10.3
Purpose_Class.Muni_Water_and_Sewer	10,417,538	6.6	25	-4.1

Source: Western Asset, Barclays. As of 14 Mar 13

Investment Risk Management

Hypothetical Dashboard

Hypothetical Portfolio

Benchmark: Hypothetical Benchmark

PM: X: RM: Y

MV for Hypothetical Mandate: \$85,000MM

As of Hypothetical Date

Tracking Error	Total Tracking Error		Contribution to Tracking Error (bps)							
	1yr Ex-Post	Ex-Ante (Point 1yr HL)	Foreign Exchange	Curve	Inflation Linked	Credit Risk	Additional HY Risk	Credit - EMD	Spread Securitized	Idiosyncratic
Tracking Error (ann.)	150	134	12	20	9	55	1	3	29	6
Tracking Error (ann.) %	300 Targeted		9%	15%	6%	41%	1%	2%	22%	4%

Performance	
1yr Excess Return	3yr Excess Return
+461	+435
150 Targeted	

Isolated TEV	Diversification Benefits
434	69%
Ex-Ante Vol.Ratio (1yr-HL) 1.04	
Ex-Post Vol.Ratio (1yr) 1.16	

Security Partition*	Treasury - Nominal	Treasury - TIPS	Govt Related	Credit - Industrial IG	Credit - Industrial HY	Credit - Financial IG	Credit - Financial HY	Credit - Utility IG	Credit - Utility HY	MBS Pass-through	ABS	CMBS	CMO	Cash	Others
Net Market Weight (%)	-17.56%	1.75%	-6.54%	1.84%	5.12%	4.62%	0.28%	-0.57%	1.00%	-7.16%	3.07%	0.08%	12.02%	2.67%	-0.35%
Tracking Error Contribution	1	8	-7	5	24	37	3	0	4	-2	10	1	19	0	0
Tracking Error Contribution %	1%	6%	-5%	3%	18%	27%	2%	0%	3%	-1%	7%	1%	14%	0%	0%

Top 5 Tracking Error Contributions	Net Expos.	TE Contrib.	TE %Contrib.
USD FIN Banking	0.72 DTS	22	17%
USD 5Y keyrate	-0.43 KRD	16	12%
USD 30Y keyrate	0.50 KRD	-13	-10%
USD FIN Finance Companies	0.42 DTS	13	10%
USD Non-Agency MBS OAS Drop	0.19 LOASD	12	9%
Total		50	37%

Top 5 Isolated TEV	Iso. TEV	Iso. TEV %
Credit Risk	72	17%
YC USD-Yield/Swap Curve	44	10%
US-MBS	41	9%
FX Other	40	9%
US-ABS	37	8%
Total	233	54%

Top 5 TE Contributions by Currency	Weight%	TE Contrib.	TE %Contrib.
MXN (Mexican Nuevo Peso)	1.57	10	7%
BRL (Brazilian Real)	1.02	7	5%
EUR (European Euro)	-2.75	-3	-2%
GBP (Pound Sterling)	-1.01	-3	-2%
MYR (Malaysian Ringgit)	0.31	1	1%
Total Currency Risk (incl. the 5 above)		12	9%

Financials - Cap Structure	Net Wgt%	TE Contrib.	TE %Contrib.
Senior+LT2	3.41	20	15%
T1+UT2	1.47	19	14%
Total	4.89	39	29%

Top 10 Tickers (POINT)	OASD Contrib.	Net Wgt%	Iso. TEV	Residual TE Contrib.	Residual TE %Contrib.
Obligor 1	0.12	0.8	21	13	9%
Obligor 2	0.05	0.5	9	6	4%
Obligor 3	0.06	0.8	9	5	4%
Obligor 4	0.02	0.3	10	5	4%
Obligor 5	0.03	0.6	5	3	2%
Obligor 6	0.04	0.4	4	3	2%
Obligor 7	0.02	0.2	4	2	2%
Obligor 8	0.04	0.5	4	2	2%
Obligor 9	0.03	0.4	5	2	2%
Obligor 10	0.04	0.6	4	2	2%
Total	0.46	5.1	74	44	33%

KRD	USD	EUR	Total
6M	0.00	0.00	0.00
2Y	-0.30	0.00	-0.30
5Y	-0.43	0.03	-0.40
10Y	-0.08	0.09	0.01
20Y	-0.26	0.00	-0.26
30Y	0.50	0.00	0.50
50Y	-0.01	0.00	-0.01
Total	-0.58	0.12	-0.46
Total OAD			-0.32

DOMICILE (By Active MV)	Weight%
MEXICO	1.6%
BRAZIL	1.6%
AUSTRALIA	0.9%
UNITED KINGDOM	0.7%
FRANCE	0.5%
SPAIN	0.4%
GERMANY	-0.5%
CANADA	-1.1%
SUPRANATIONAL	-1.4%
UNITED STATES	-2.8%
Total	-0.2%

Scenario Analysis	Rates	FX	Credit	Total
Historical Scenarios				
Return to pre-Lehman	100	9	-325	-215
Return to November 2008	1	-16	-826	-841
Replay Jun '07 to Nov '08 with Carr	-35	-9	-722	-766
Return to June 2007	243	-8	187	422
Replay Russia Crisis 1998	-24	-44	-121	-189
Return to LT Median	101	11	31	143
Forward-Looking Scenarios				
Market Unchanged, 1y horizon				106
Eurozone Growth Surprise	104	-54	195	246
Eurozone Continued Uncertainty	3	8	-134	-123
Eurozone Controlled Breakup	15	-63	-345	-393
China Slowdown	22	-20	-433	-431

Top 5 Non-Benchmark Holdings	Weight %
ACAFP - CREDIT AGRICOLE SA	0.3%
AES - AES CORP	0.2%
CHTR - CHARTER COMMUNICATIONS-CL	0.2%
HCA - HCAINC	0.2%
FDC - FIRST DATA CORP	0.2%
Total	1.2%

*Security Partition buckets exclude Currency and Curve risk and thus the TE Contribution % values may not sum to 100%. Any Currency and/or Curve Contribution to TE can be seen in the "Contribution to Tracking Error" Note: This risk dashboard above is for illustrative purposes only and reflects Western Asset's best efforts to identify and measure the major sources of risk in the sample portfolio. Results depicted are dependent on an underlying statistical model and/or varying market conditions and are therefore subject to change without notice. There is no guarantee that ex-ante risk measures will be in line with their ex-post realizations. Quantitative risk measures can change rapidly as market regimes change. Western Asset uses a variety of risk measures, including risk estimates, stress and scenario testing, and judgment to assess possible future risks. Scenarios shown may not occur or may not result in the assumed outcomes.

Western Asset Competitive Advantages

Disciplined yet flexible investment management philosophy and process

- Team approach to portfolio management
- Advanced risk management

Strategic importance of pension client segment

- Client-centricity in everything we do
- Dedicated, experienced resources

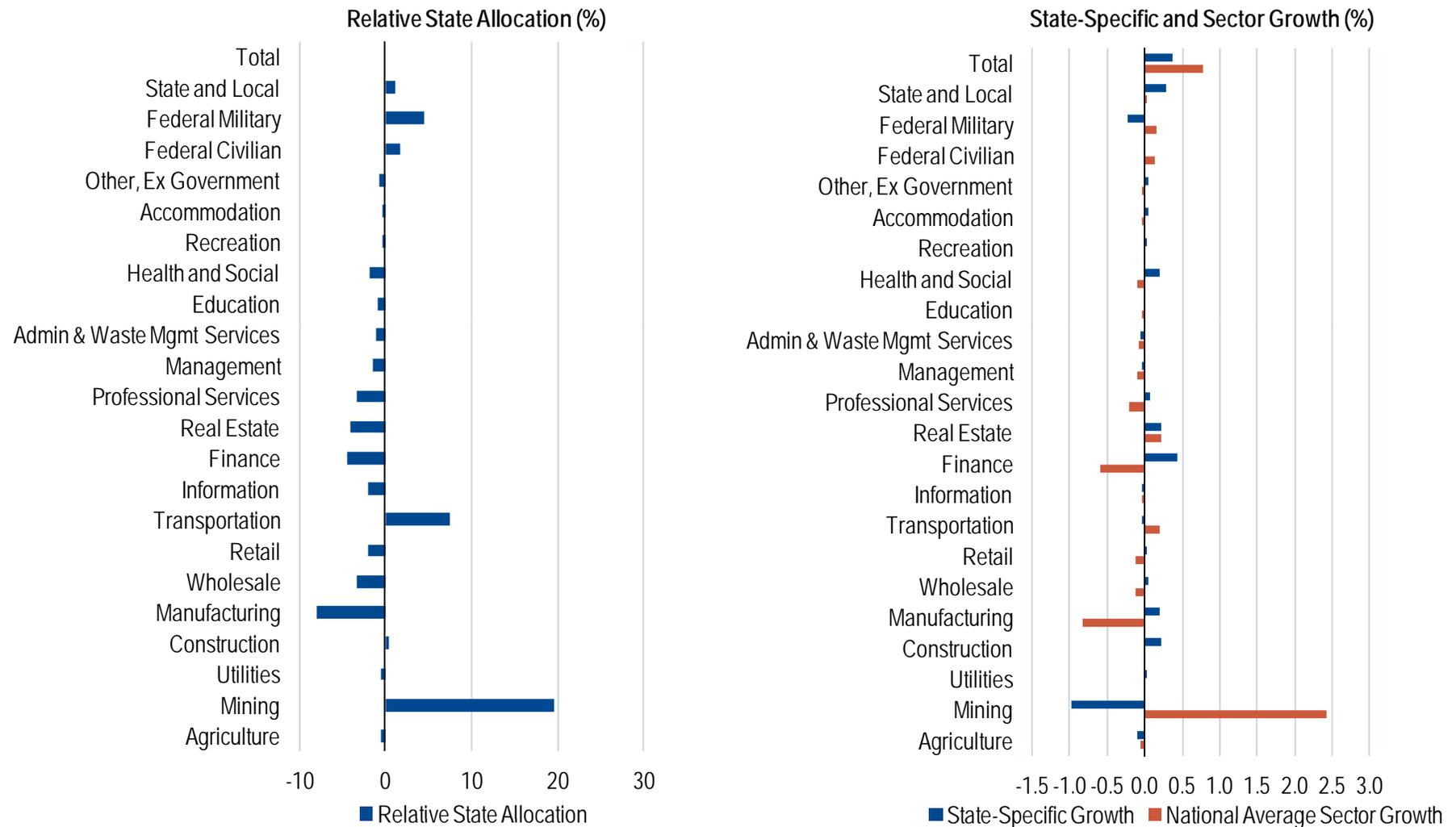
Operational simplicity

- Single system for global client reporting
- Unified platforms across risk management, accounting, security reference

Appendix

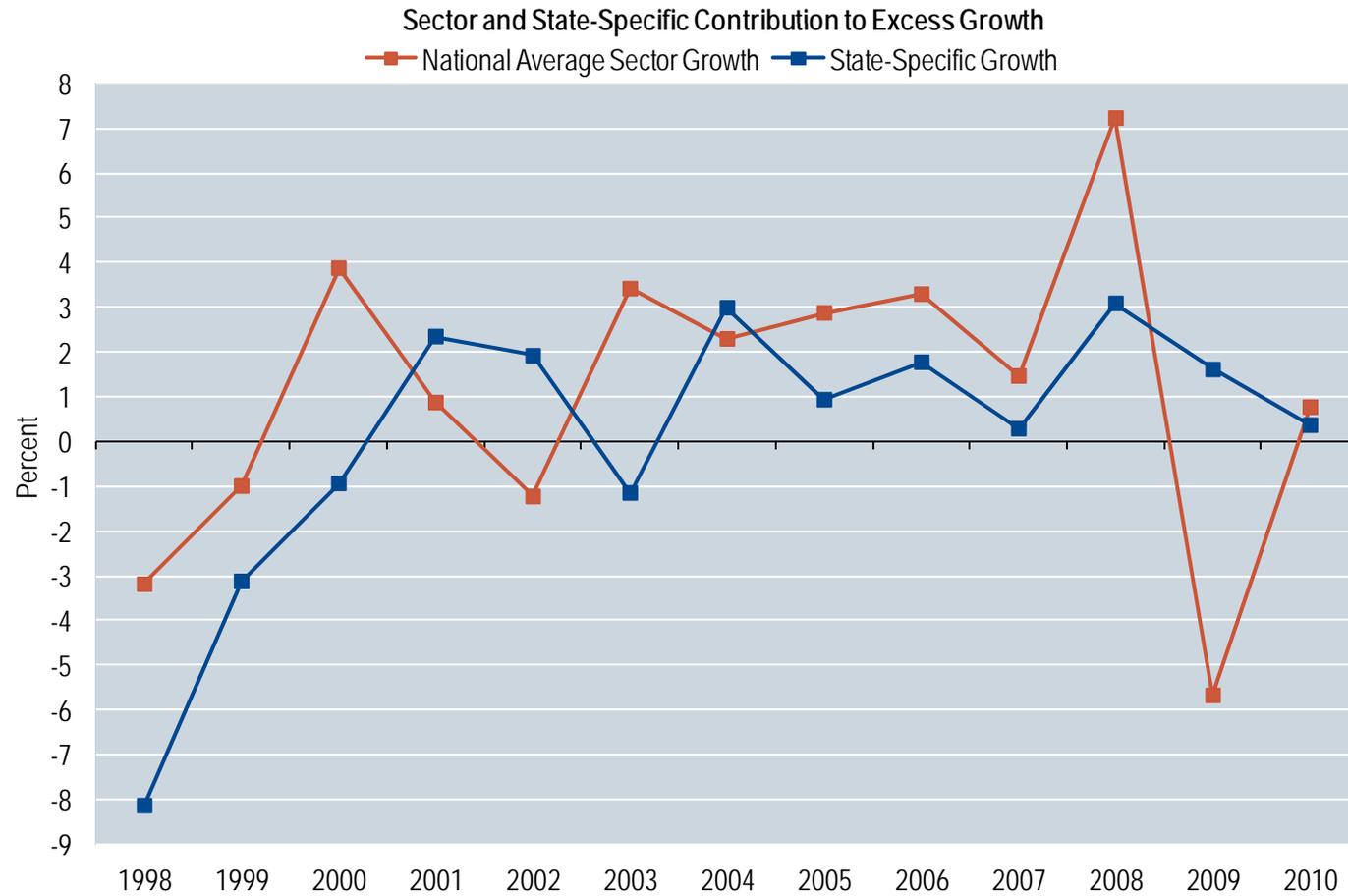
Appendix: Alaska Economy 2010

State Economic Trends Disentangled from National Trends



Source: Bureau of Economic Analysis and Western Asset

Appendix: Alaska Economy Over Time



Source: Bureau of Economic Analysis, Western Asset

Global Credit Team

Stephen A. Walsh (32 yrs) – Co-Chief Investment Officer

Michael C. Buchanan, CFA (23 yrs) – Head of Credit

Portfolio Managers

Investment-Grade Credit

Ryan K. Brist, CFA (20 yrs) – US
 Craig Jendra, CFA (17 yrs) – Australia
 Blanton Keh, CFA (13 yrs) – US
 Anthony Kirkham, CFA (23 yrs) – Australia
 Takahiro Omura, CFA (21 yrs) – Japan
 Paul Shuttleworth (27 yrs) – UK

High-Yield Credit/Leveraged Loans

Michael C. Buchanan, CFA (23 yrs) – US
 Ian R. Edmonds (23 yrs) – UK
 Timothy J. Settel (20 yrs) – US

Emerging Markets Credit

Robert Abad (24 yrs) – US
 Matthew Duda, CFA (20 yrs) – US
 Nicolas S. Saad, CFA (13 yrs) – Brazil

Municipals

Robert Amodeo, CFA (26 yrs) – US
 Charles Bardes (28 yrs) – US
 David T. Fare, CFA (26 yrs) – US
 Barbara Ferguson (28 yrs) – US
 Barry HoAire (12 yrs) – US
 John C. Mooney, CFA (26 yrs) – US
 Edward J. Paulinski (11 yrs) – US
 Ron Perry (36 yrs) – US

Research

Sebastian Angerer (4 yrs) – UK

Credit Analyst

Kailash Chhaya, CFA (12 yrs) – Japan

Credit Analyst

Nathalie Cuadrado (13 yrs) – UK

Industrials

Ian Justice (15 yrs) – UK

Whole Business Securitization

Rene Ledis (20 yrs) – US

Basic Industries/Utilities/Energy

Swee-Ching Lim (14 yrs) – Singapore

Credit Analyst

Kathryn L. Montgomery (5 yrs) – US

Generalist, Liquidity

Paul S. Olsen (30 yrs) – US

Generalist, Liquidity

DeAndre L. Parks, CFA (20 yrs) – US

Healthcare/Consumer Products/Retail

Gerald R. Rawcliffe (30 yrs) – UK

Financial Institutions

Sean Rogan (24 yrs) – Australia

Credit Analyst

Ivor Schucking (22 yrs) – US

Financial Institutions

Davis Smith (24 yrs) – US

Communications

Amelia Sugiarto (7 yrs) – UK

Credit Analyst

Hiroshi Yumura (13 yrs) – Japan

Credit Analyst

Arvinder S. Chowdhary, CFA (18 yrs) – UK

European High-Yield Credit

Oon Jin Chng (14 yrs) – Singapore

Credit Analyst

J. Gibson Cooper, CFA (26 yrs) – US

Chemicals, Energy, Pipelines & Gas Distribution

Douglas Dieter, PhD (14 yrs) – US

Healthcare, Technology

Ruchi Gupta (15 yrs) – UK

European High-Yield Credit

Mark A. Hughes, CFA (15 yrs) – US

Automotive, Gaming, Industrials, Building Products, Rental Service

Christopher N. Jacobs, CFA (25 yrs) – US

Special Situations, Distressed

Christopher Kilpatrick (16 yrs) – US

Telecom, Cable

John M. King, CFA (16 yrs) – US

Utilities, Metals & Mining, Packaging, Paper & Forest Products

Damon Shinnick, CFA (14 yrs) – Australia

Credit Analyst

Araceli M. Sibley (21 yrs) – US

Consumer Products, Entertainment, Restaurants, Consumer Services,

Textiles

Suzanne M. Trepp, CFA (23 yrs) – US

Aerospace/Defense, Transportation, Retail, Food & Beverage, Tobacco

Daniel Araujo (29 yrs) – Brazil

Industrials

Marcos Collina (28 yrs) – Brazil

Banks, Financials

Jeffrey Nuruki, CFA (16 yrs) – US

Credit Analyst

Judy Ewald (30 yrs) – US

Health Care, Higher Education, Housing,

Pre-Refunded, Tax Exempt Structured

Bud Littman (20 yrs) – US

Misc High-Yield, Public Facilities, Special Assessment

Districts, Toll Roads

Thea Okin (31 yrs) – US

Assisted Living, Charter Schools, Nursing Homes,

Power, Water & Sewer

Paul S. Olsen (30 yrs) – US

Financial Institutions

Frederick Poon (13 yrs) – US

Health Care, Industrial Revenue, Solid Waste,

Tobacco

Reese K. Trucks (27 yrs) – US

Transportation, Airlines, Airport Revenue,

Bridges & Tunnels, Mass Transit, Ports

Trading

Oberto Alvarez (20 yrs) – US

Kurt D. Halvorson, CFA (12 yrs) – US

Chetna Mistry (16 yrs) – UK

Walter E. Kilcullen (16 yrs) – US

Kevin Ritter, CFA (15 yrs) – US

Portfolio Analysts

Dan Alexander, CFA (9 yrs) – US

Steve A. Green (19 yrs) – Australia

Matthew D. Jackson (11 yrs) – UK

Jean Lee, CFA (8 yrs) – UK

Edward T. Ma, CFA (11 yrs) – US

Molly Schwartz, CFA (9 yrs) – US

Sophala Choeng (7 yrs) – US

Brandon C. Jacoby, CFA (10 yrs) – US

Roderick MacPhee, CFA (9 yrs) – UK

Matthew Graves, CFA (8 yrs) – US

Joseph Genco (20 yrs) – US

Mindy Joe, CFA (13 yrs) – US

Product Managers

As of 21 Mar 13

Thomas V. McMahon (34 yrs) – US

Investment-Grade Credit & High-Yield Credit/Leveraged Loans

Brendan A. Bowman, CFA (8 yrs) – US

Investment-Grade Credit & High-Yield Credit/Leveraged Loans

Steven T. Saruwatari, CFA (25 yrs) – US

Western Asset Management Awards/Recognition

2012

Institutional Investor Magazine

Western Asset: Fixed-Income Municipal Manager Award, 2011

iMoneyNet

Western Asset Institutional Tax Free Reserves was named Top AAA-rated National Tax Free Money Market fund based on highest net returns for 2011

Lipper¹

Named Legg Mason Western Asset Managed Municipals Fund the Best among 197 General Municipal Debt Funds for the 5-year period ending 31 Dec 11 [Class I shares (SMMYX)]

Western Asset Managed Municipals Fund was rated number 36 out of 299 over a one-year period ending 30 June 12 [Class I shares (SMMYX)]

Western Asset Managed Municipals Fund was rated number 2 out of 193 over a five-year period ending 30 June 12 [Class I shares (SMMYX)]

Western Asset Managed Municipals Fund was rated number 5 out of 134 over a 10-year period ending 30 June 12 [Class I shares (SMMYX)]

Western Asset Managed Municipal High Income Fund was rated number 19 out of 299 over a one-year period ending 30 June 12 [Class I shares (LMHIX)]

Western Asset Managed Municipal High Income Fund was rated number 20 out of 250 over a three-year period ending 30 June 12 [Class I shares (LMHIX)]

Western Asset New York Municipals Fund was rated number 16 out of 193 over a five-year period ending 30 June 12 [Class I shares (SNPYX)]

2011

Lipper¹

Named Legg Mason Western Asset New Jersey Municipals Fund the Best among 43 and 35 New Jersey Municipal Debt Funds for the respective 3- and 5-year periods ending 12/31/10

Named Legg Mason Western Asset New York Municipals Fund² the Best among 85 New York Municipal Debt Funds for the 5-year period ending 12/31/10

2010

Lipper¹

Named Legg Mason Western Asset Managed Municipals Fund the Best among 214, 197 and 156 General Municipal Debt Funds for the respective 3-, 5- and 10-year periods ending 12/31/09 [Class I shares (SMMYX)]

Named Legg Mason Western Asset Pennsylvania Municipals Fund² the Best among 52 and 46 Pennsylvania Municipal Debt Funds for the respective 3- and 5-year periods ending 12/31/09 [Class A shares (SBPAX)]

Named Legg Mason Western Asset New York Municipals Fund³ the Best among 88 and 86 New York Municipal Debt Funds for the respective 3- and 5-year periods ending 12/31/09 [Class I shares (SNPYX)]

Named Legg Mason Western Asset Municipal High Income Fund the Best among 79 High-Yield Municipal Debt Funds for the 5-year period ending 12/31/09 [Class A shares (STXAX)]

Named Legg Mason Western Asset Massachusetts Municipals Fund the Best among 37 Massachusetts Municipal Debt Funds for the 5-year period ending 12/31/09 [Class A shares (SLMMX)]

Named Legg Mason Western Asset New Jersey Municipals Fund the Best among 34 New Jersey Municipal Debt Funds for the 5-year period ending 12/31/09 [Class A shares (SHNJX)]

2009

Lipper¹

Named Legg Mason Western Asset Pennsylvania Municipals Fund⁴ the Best Pennsylvania Municipal Debt Funds over 3-years ending 12/31/08 [Class A shares]

Named Legg Mason Western Asset New York Municipals Fund⁴ the Best New York Municipal Debt Funds over 3-years ending 12/31/08 [Class I shares]

2008

Lipper¹

Named Legg Mason Partners Managed Municipals Funds⁴ the Best General Municipal Debt Fund

Named Legg Mason Partners Municipal High Income Fund⁴ the Best High Yield Municipal Debt Fund for the 3-year category

Named Western Asset Inflation Indexed Plus Bond Portfolio⁴ the Best Treasury Inflation Protected Securities Fund for the 3-year category

Named Legg Mason Partners Pennsylvania Municipals Fund⁴ the Best Pennsylvania Municipal Debt Fund for the 3-year category

Named Legg Mason Partners Massachusetts Municipals Fund⁴ the Best Massachusetts Municipal Debt Fund for the 3- and 5-year categories

Named Legg Mason Partners New Jersey Municipals Fund⁴ the Best New Jersey Municipal Debt Funds for the 5-year category

¹Lipper Fund Awards are based on the highest risk-adjusted performance among funds within a given category; ²Third consecutive year the fund has won for the 3-year period;

³Second consecutive year the fund has won for the 3-year period; ⁴Subadvised for Legg Mason Inc.; ⁵Subadvised for KOKUSAI Asset Management Company Ltd.

Fee Schedule

US Municipal Intermediate Aggregate Portfolios

.25 of 1% on first US\$100 million

.125 of 1% on amounts over US\$100 million

The minimum separate account size is US\$50 million.

Biographies

ROBERT E. AMODEO

26 Years Experience

- Western Asset Management Company – Portfolio Manager, 2005–
- Salomon Bros Asset Mgmt – Analyst to Managing Director, Portfolio Manager 1992 – 2005
- Salomon Brothers Inc. – Accountant to Analyst, 1988 – 1992
- The Bank of New York – Accountant, 1987 – 1988
- *Columbia University, Master of Public Administration, Advanced Management and Finance*
- *Long Island University, Bachelor of Science*
- *Chartered Financial Analyst*

JOSEPH C. CARIERI

30 Years Experience

- Western Asset Management Company – Client Service Executive, 1996–
- Los Angeles County Employees Retirement Association – Senior Investment Officer, 1993–1995
- Fidelity Management and Research Company – Senior Trader, 1992–1993
- First Capital Holdings Corporation – Portfolio Manager, 1987–1992
- Drexel Burnham Lambert – Credit Analyst, 1983 – 1987
- *Anderson Graduate School of Management, UCLA, M.B.A.*
- *Saint Francis College, New York, B.S.*

Western Asset experience reflects current position title and hire date.

Representative Client List Disclosure

The clients listed in the Corporate company type are in all mandates, located in all countries and all regions of the United States, and with portfolios with an AUM of \$55(M) or greater.

The clients listed in the Public company type are in all mandates, located in all countries and all regions of the United States, and with portfolios with an AUM of \$94(M) or greater.

The clients listed in the Multi-Employer / Union company type are in all mandates, located in all countries and all regions of the United States, and with portfolios with an AUM of \$20(M) or greater.

The clients listed in the Eleemosynary company type are in all mandates, located in all countries and all regions of the United States, and with portfolios with an AUM of \$8(M) or greater.

The clients listed in the Insurance company type are in all mandates, located in all countries and all regions of the United States, and with portfolios with an AUM of \$48(M) or greater.

The clients listed in the Healthcare company type are in all mandates, located in all countries and all regions of the United States, and with portfolios with an AUM of \$50(M) or greater.

The clients listed in the Sub-Advisory company type are in all mandates, located in all countries and all regions of the United States, and with portfolios with an AUM of \$100(M) or greater.

Clients that have advised Western Asset of account terminations have been excluded from the lists.

Risk Disclosure

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ALASKA RETIREMENT MANAGEMENT BOARD

SUBJECT: Investment Advisory Council Member
Contract Expiration

DATE: April 19, 2013

ACTION: X

INFORMATION: _____

BACKGROUND:

AS 37.10.270 provides that the Alaska Retirement Management Board (Board) may appoint an investment advisory council (IAC) composed of at least three and not more than five members. Members shall possess experience and expertise in financial investments and management of investment portfolios for public, corporate, or union pension benefit funds, foundations or endowments. Currently, three IAC members are under contract to provide advisory services to the board and its staff. The three advisory positions are designated by areas of expertise: an academic advisor, an advisor with experience as trustee/manager of a public fund or endowment, and an advisor with experience as a portfolio manager. IAC members currently attend Board meetings, an annual manager review meeting, and the annual education conference.

STATUS:

The contract for IAC member George Wilson expires June 30, 2013. Mr. Wilson holds Seat One which has the following description: *The candidate shall possess experience and expertise in financial investments and management of investment portfolios for public, corporate or union pension benefit funds, foundations or endowments. Preference will be given to candidates with a minimum of ten years' experience as a manager/director or trustee of a pension or public fund of \$10 billion or more in market value.* Mr. Wilson was first appointed July 1, 2006, and reappointed to a second term July 1, 2009.

RECOMMENDATION:

That the Board direct staff to advertise and solicit applications from Mr. Wilson and other persons interested in serving on the Investment Advisory Council.

ALASKA RETIREMENT MANAGEMENT BOARD

SUBJECT: Callan Associates Inc. ACTION: X
General Consulting Contract
DATE: June 22, 2012 INFORMATION: _____

BACKGROUND:

The Alaska Retirement Management Board (Board) has a consulting contract with Callan Associates Inc. (Callan) for general investment consulting services. This contract also includes general investment consulting services provided to the Commissioner of the Department of Revenue on behalf of the State of Alaska.

STATUS:

The current consulting contract with Callan runs from July 1, 2009, through June 30, 2012, with two optional one-year extensions. At its June 2012 meeting, the Board and Commissioner entered into the first optional one-year extension. In consultation with the Commissioner, staff recommends exercising the second optional one-year extension through June 30, 2014.

RECOMMENDATION:

That the Board direct staff to exercise the second one-year contract option, extending the consulting contract with Callan Associates Inc. until June 30, 2014.

ALASKA RETIREMENT MANAGEMENT BOARD

SUBJECT: The Townsend Group Inc. ACTION: X
Real Estate Consultant Contract
DATE: April 19, 2013 INFORMATION: _____

BACKGROUND:

The Alaska Retirement Management Board (Board) has a contract with The Townsend Group, Inc. (Townsend) for real estate consulting services.

STATUS:

The contract period with Townsend runs from April 1, 2009, through June 30, 2012, with two optional one-year extensions; the Board exercised the first option that ends June 30, 2013. Staff recommends that the Board exercise the second one-year optional extension of the Townsend contract to June 30, 2014.

RECOMMENDATION:

That the Board direct staff to exercise the second one-year contract option, extending the contract with Townsend until June 30, 2014.

State of Alaska
ALASKA RETIREMENT MANAGEMENT BOARD
Relating to the Allocation of Actuarial Costs

Resolution 2013-07

WHEREAS, the Alaska Retirement Management Board (“Board”) was established by law to serve as trustee to the assets of the State’s retirement systems; and

WHEREAS, the Departments of Revenue and Administration have entered into contracts with actuaries to perform actuarial work for the State’s retirement systems; and

WHEREAS, the Board acknowledges that in addition to standard actuarial work necessary to develop annual contribution rates, there is a need for actuarial work to examine options to address unfunded liabilities associated with the PERS and TRS, and additional potential requests for actuarial work associated with alternative configurations of the retirement system tiers, etc.; and

WHEREAS, the Board acknowledges that actuarial work may be conducted at the request of the Board, the Departments of Revenue and Administration, or by the Legislature, and that such requests often have a shared purpose, such as addressing the unfunded liabilities of the retirement systems; and

WHEREAS, the Board has a statutory obligation to “coordinate with the retirement system administrator” to perform certain actuarial work under AS 37.10.220 and a statutory and fiduciary responsibility to protect retirement system assets and ensure that such assets are expended appropriately; and

WHEREAS, the Board desires to ensure that the retirement system is not unfairly burdened with the cost of actuarial work that may not directly benefit the existing retirement system and its beneficiaries, and desires therefore to exercise some manner of control over the actuarial costs allocated to the retirement systems; and

WHEREAS, the Board desires to ensure that costs of actuarial work are assessed to the retirement systems only when those costs are directly related to administration of the PERS and TRS plans as currently configured, or to the protection of PERS and TRS trust assets.

NOW THEREFORE, BE IT RESOLVED BY THE ALASKA RETIREMENT MANAGEMENT BOARD, THAT:

Section 1. To the extent that actuarial costs are incurred which are not directly related to the administration of the PERS and TRS plans as currently configured, or to the protection of PERS and TRS trust assets, those costs will be assessed to the retirement system trusts only when they are approved by the Board.

Section 2. To the extent that actuarial costs are incurred for the purpose of examining potential alternatives aimed at addressing the unfunded liabilities of the system at the request of the Board, and additional scenarios are requested by the administration or the legislature, so long as the costs are deemed reasonable by the administration, they may appropriately be charged to the retirement systems.

Section 3. To the extent that actuarial costs are incurred for the purpose of examining potential alternative retirement system structures, those costs will not be assessed to the retirement system trusts unless approved by the Board.

Dated at Juneau, Alaska this _____ day of April, 2013.

Chair

ATTEST:

Secretary

**ALASKA RETIREMENT MANAGEMENT BOARD
M E M O R A N D U M**

To: ARMB Trustees
From: Judy Hall
Date: April 8, 2013
Subject: Financial Disclosures

As required by AS 37.10.230 and Alaska Retirement Management Board policy relating to investment conduct and reporting, trustees and staff must disclose certain financial interests. We are hereby submitting to you a list of disclosures for individual transactions made by trustees and staff.

Name	Position Title	Disclosure Type	Disclosure Date
Victor Djajalie	Investment Officer	Equities	2/8/13 2/28/13
Martin Pihl	Trustee	Manager Change	2/19/13
Bob Mitchell	Investment Officer	Equities	2/7/13

Alaska Retirement Management Board
2013 Meeting Calendar

February 12-13 Tuesday-Wednesday	*Review Capital Market Assumptions *Manager Presentations
February 28, 2013	Legislative Committee Meeting
March 15, 2013	Special Board Meeting
April 17 - Wednesday	Legislative Committee
April 18-19 Thursday-Friday Juneau	*Adopt Asset Allocation *Performance Measurement - 4 th Quarter *Buck Consulting Actuary Report *GRS Actuary Certification *Review Private Equity Annual Plan Pathway Capital Management *Manager Presentations
June 19	Committee Meetings: Audit Legislative
June 20-21 Thursday-Friday Anchorage	*Final Actuary Report/Adopt Valuation/Contribution Rates *Performance Measurement - 1 st Quarter *Manager Presentations
September 18	Committee Meetings: Audit Budget Defined Contribution Plan Legislative
September 19-20 Thursday-Friday Fairbanks	*Audit Results/Assets - KPMG *Approve Budget *Performance Measurement - 2 nd Quarter *Real Estate Annual Plan *Real Estate Evaluation - Townsend Group *Manager Presentations
October 3-4	Education Conference - New York City
December 4	Committee Meetings: Audit
December 5-6 Thursday-Friday Anchorage	Audit Report - KPMG Performance Measurement - 3 rd Quarter Manager Review (Questionnaire) Private Equity Review Economic Round Table *Manager Presentations